



RÉPUBLIQUE  
FRANÇAISE

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Fraternité*

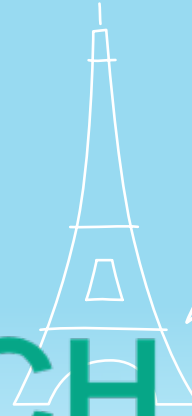


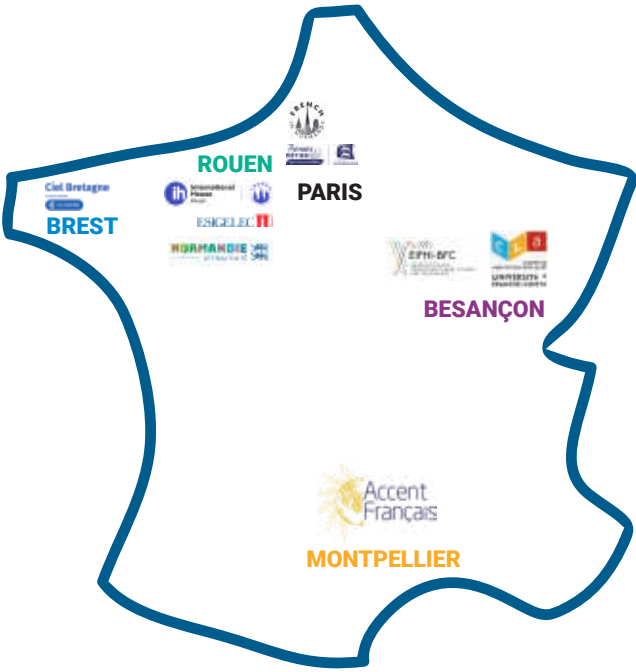
CAMPUS  
FRANCE



# FRENCH+ SCIENCES

Get a taste  
of Science  
in France!






### PARTICIPANTS\*

University students seeking a period of language, scientific, technical and cultural immersion in France.

Language requirements:

- > In French: beginner (or more)
- > In English: level B2 required



### OBJECTIVES

- > To explore scientific and technical cutting-edge sectors through site visits to companies, conferences, and encounters with specialists in the field
- > To acquire or improve communication skills in French
- > To discover five of the most beautiful regions of France



\* 10 students minimum required

## TABLE OF CONTENTS

### 4 3 WEEKS AT FRENCH IN NORMANDY AND ESIGELEC Focus on Energy and Decarbonisation : New Challenges for Society



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Normandy is at the forefront of major nuclear investments: construction of two new EPR2 nuclear reactors, dismantling of a nuclear fuel processing facility, creation of waste cycle infrastructure, numerous large-scale maintenance projects, and more. These major projects will significantly increase recruitment and training needs in the region. The 3NC project ("Normandy, Nuclear, New Competencies") aims to address these challenges.

### 8 3 WEEKS AT ACCENT FRANÇAIS, MONTPELLIER Focus on Sustainable Development



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With its long and proud tradition of science and higher learning, Montpellier is internationally renowned for research in the fields of health, agronomy, and the environment. It is also the birthplace of modern medicine.

### 12 3 WEEKS AT CIEL BRETAGNE, BREST Science and Technology of the Sea



© Pixabay, Mermin'Str

Ciel Bretagne offers a program of visits to companies and state-of-the-art laboratories, conferences on current and future challenges facing the engineering professions, and courses in French as a foreign language. The program also includes a wide selection of excursions and cultural visits.

### 16 4 WEEKS AT CLA UNIVERSITÉ DE FRANCHE-COMTÉ BESANÇON - DIJON - BELFORT Micro, Nano & Smart Technology For Industrial Applications



© Unsplash

The Center for Applied Linguistics (CLA, *Centre de linguistique appliquée*) offers a program of language, cultural, and scientific immersion on the topic of micro, nano & smart technology for industrial applications.



**French ⊕ Sciences are designed for international English-speaking students in different fields, who may be complete beginners in French. The contents are 100% taught in English.**

**This 2- to 4-week program:**

- > Creates a scientific dynamic;
- > Brings together innovators, entrepreneurs, start-up, scientists, educators, and researchers;
- > Gives an overview of French technological know-how in cutting edge sectors such as Sustainable Development, Sea Sciences and Technologies, Microtechnology, Decarbonisation.

**French ⊕ Sciences:**

- > Prepares for a longer study project;
- > Develops new competencies for relations with scientists and engineers;
- > Gives benchmarks for careers in scientific cutting-edge fields.

**French ⊕ Sciences:**

- > A research-based educational practice that encourages participants to experiment, share, discover, debate and support a reflection about Sciences and Technology;
- > A unique opportunity to build up a strong network in these scientific fields.

**A complete academic and logistical package:**

- > Airport pickup\*, transportation to and from the language center;
- > Housing (three options), tutoring and monitoring of progress;
- > Medical insurance link provided by Campus France;
- > Assessment and final report.

\* 10 students minimum required

3 WEEKS  
AT  
FRENCH IN  
NORMANDY  
ESIGELEC



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# Focus on Energy and Decarbonisation: NEW CHALLENGES FOR SOCIETY

Normandy is a historic region, cradle of Impressionism, close to the ocean, famous for its gastronomy, having marvellous cities that boasts a superb architectural and cultural heritage. Yet it is also a region that is resolutely modern. As a major actor in industrial research, Normandy is recognised throughout Europe as a world-class player in the following sectors: pharmaceuticals, transports, digital applications and energy.



In collaboration with:



As far as energy is concerned, Normandy is at the forefront of massive investments in decarbonized energy development, including solar, wind, and nuclear power. The region's commitment to sustainable energy is exemplified by the planned construction of two new EPR2 nuclear power plants, which will create significant opportunities for talent from France and abroad. These nuclear energy challenges in Normandy are being addressed

through the ambitious regional project called 3NC («Normandy Nuclear, New Competences»), which brings together academic institutions, industry partners, public institutions, and research centers. In this context of technical excellence, French in Normandy has partnered with ESIGELEC, the Regional Agency for Orientation and Professional Careers, and Campus France to offer a 3-week program. This innovative initiative combines French language

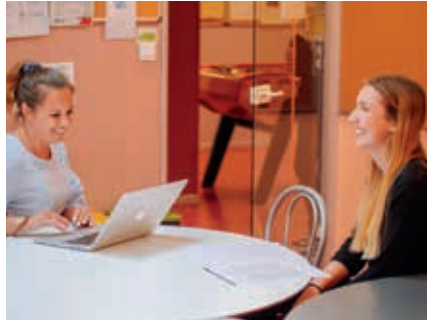
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de Bomare - 76100 ROUEN  
tel. +33 (0)2 35 72 08 63  
info@frenchinnormandy.com



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PROGRAM

tuition with cultural immersion, exciting workshops on the latest technological developments presented by experts from scientific research, technology, and engineering fields, as well as industrial visits and practical activities.

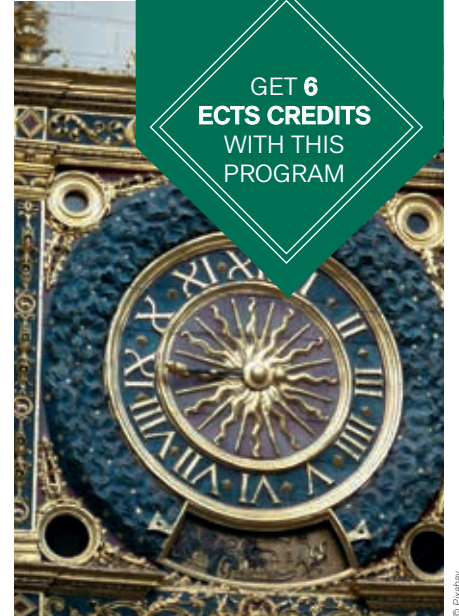
To meet this collective and regional challenge, all 3NC partners (educational institutions, government bodies, and companies) seek to promote the richness and quality of higher education programs in decarbonized energy in Normandy, both nationally and internationally.



© French in Normandy



© French in Normandy



© Pixabay

The school has a special research section in embedded systems (IRSEEM) and develops industrial applications using the latest and most innovative technologies for solutions adapted to the automobile, aeronautic and electro-telecommunications sectors.

French in Normandy, an award winning French language school, recognized by the French Government Quality label and member of Groupement Fle, International House and IALC, welcomes over 1,500 students every year from more than 60 different countries for both long and short term language courses.



COURSE CONTENT

40  
HOURS  
PER WEEK

- **French language: 15 hours per week**
  - > Acquisition or enhanced language; communication

- and intercultural skills;
- > Improve grammar and syntax;
- > Improve written and oral expression.
- **Science and technology: 15 hours per week**
  - > Hands on sessions in the lab;
  - > Build your own smart robot;
  - > Be part of a winning team in competition with

- French students.
- **Interactive visits and thematic conferences: 10 hours per week**
  - > Visit innovative research labs;
  - > Meet with experts from the industrial world;
  - > Discover Normandy's world leading companies.

Non-contractual program, subject to change. A minimum of 10 students is required.



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Duration  
**3 WEEKS**



Location  
**ROUEN**

PERIOD: June

French ⊕ Sciences & Host family  
**€2,600**

French ⊕ Sciences & Residence  
**€2,900**

French ⊕ Sciences & Shared flat  
**€2,400**

# 3 WEEKS AT FRENCH IN NORMANDY ESIGELEC



© French in Normandy



© French in Normandy



In collaboration with:



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info@frenchinnormandy.com



© French in Normandy

WEEK

1

## MONDAY

- > Morning French class
- > Afternoon Cultural tour and exploration of the city of Rouen.



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• Initial training through traditional or work-study programs, preparing engineers attuned to the global context.

• Research, both fundamental (creating knowledge) and applied (developing products and services).

• Contribution to the economic development of the region and its businesses.



© ESIGELEC

## TUESDAY

- > Morning French class
- > Afternoon Conference about decarbonized energy policies in France. This initiative is part of the France 2030 recovery plan aimed at strengthening the country's industrialization, particularly through the revitalization of the French decarbonized energy sector to address future challenges.

Official welcome by the City of Rouen, a historic port city on the Seine.



© Pixabay

## THURSDAY

- > Morning French class
- > Afternoon Visit to an operational nuclear power plant and a construction site. These are PWR (Pressurized Water Reactor) plants, including one that has been operational for over 30 years and another representing the future of the sector with enhanced safety and performance. The construction site will host up to 10,000 workers.

## FRIDAY

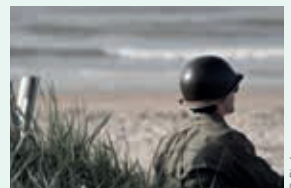
- > Morning French class
- > Afternoon Thematic Conference: Emerging uses and societal challenges. Followed by a meeting with Rouen student ambassadors.



© Pixabay

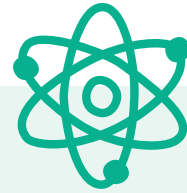
## SATURDAY

- > All day Exploration of the region, featuring Mont Saint Michel, a world-renowned landmark. Participants will experience its majesty through a bay crossing.



© Pixabay





WEEK

2

MONDAY

- > Morning French class
- > Afternoon Visit to the CESI engineering school Rouen Campus. Engaging workshop: "Exploring Innovation in Industry", including a visit and simulations in the Smart Factor.



© Pixabay

operational environment of a nuclear power plant.



© Pixabay, LUMEN

Caen engineering school.

The visit will also include the LPC (Laboratory of Corpuscular Physics), offering practical insights and applications. This will be followed by a tour of the offshore wind turbine maintenance.



© Pixabay

socially desirable, not just technically feasible.

The visit will conclude with a tour of the GPM (Materials Physics Group) laboratory at the University of Rouen Normandy.



© ESIGELEC

TUESDAY

- > Morning French class
- > Afternoon Visit to the Paluel Training Center : Hands-on session with a control room simulator and scale models to explore the

WEDNESDAY

- > Morning French class
- > Afternoon Workshop on autonomous mobility conducted by ESIGELEC.

THURSDAY

- > Morning French class
- > Afternoon Lunch featuring "Norman gastronomy", followed by visits to ENSI

FRIDAY

- > Morning French class
- > Afternoon Visit to the INSA Rouen Normandie engineering school, where the focus is on fostering sustainable, fair, and long-term solutions for society, emphasizing the importance of assessing whether these solutions are

SATURDAY

- > Full day Excursion to Paris to visit "La Cité des Sciences" (La Villette) followed by free time in the French capital.



WEEK

3



MONDAY

- > Morning French class
- > Afternoon Rapid prototyping workshop with 3D printers and laser cutting at the LINEACT laboratory of the CESI engineering school Rouen Campus. The session also includes a visit to the Industry 4.0 platform and the AR/VR laboratory.



© CESI

processing and recycling used nuclear fuel.

WEDNESDAY

- > Morning French class
- > Afternoon Workshops on Excellence Pathways at the Regional Agency for Orientation and Careers in Normandy, which implements the region's career guidance and information policies.



© CESI

- > Afternoon Discovery of Caen, known for its numerous religious buildings that earned it the nickname "City of a Hundred Spires," akin to Rouen.

This visit will conclude with a reception where certificates symbolizing participants engagement and discoveries during the program will be awarded. To wrap up, a seaside buffet dinner will be held on the beautiful Côte Fleurie.



© Adobe Stock

FRIDAY

- > Morning French class
- > Afternoon Free time

TUESDAY

- > Morning French class
- > Afternoon Visit to the ORANO La Hague plant (Cotentin) – a facility for

THURSDAY

- > Morning French class

3 WEEKS  
AT  
ACCENT  
FRANÇAIS  
MONTPELLIER



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# Focus on SUSTAINABLE DEVELOPMENT

Montpellier is the perfect destination for students interested in higher education in the fields of health, agronomy, and the environment. An important part of the program consists of site visits innovative enterprises active within a scientific and economic community that shares dreams, aspirations, and motivations. With its rich heritage in science, Montpellier enjoys international recognition, as the university consistently ranks among the top university in the world, according to the Shanghai rankings. Additionally, Montpellier is also known as the birthplace of modern medicine.

With its rich heritage in science, Montpellier enjoys international recognition, as the university consistently ranks among the top university in the world, according to the Shanghai rankings. Additionally, Montpellier is also known as the birthplace of modern medicine.

This three weeks program on environmental themes enables participants to:

- > Engage in group discussions of problems and issues confronting scientists and engineers;
- > Reflect individually on potential careers in cutting-edge companies and on the education and training programs most likely to jump start those careers.
- > Meeting the major challenges of the 21st century in line with the Sustainable Development Goals and the Paris Agreement on Climate Change;
- > Promote innovative agricultural methods that use research, education, and training to ensure food security and environmental quality. This aims to manage our natural resources sustainably, address chronic and emerging diseases, and build societies that respect the environment, considering a projected global population of 9 billion by 2050.







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**COURSE CONTENT**

**30 HOURS PER WEEK**

■ **French as a foreign language: 15 hours per week**

> Acquisition and reinforcement of linguistic,

communicational, and intercultural foundations;

- > Acquisition and reinforcement of grammar and syntax;
- > Practice in written and oral communication.

■ **Science and technology module: 15 hours per week**

> A Campus France exclusive + thematic visits.

■ **Thematic conferences**

Discovering how to accommodate science, technology and social innovation in the evolution of sustainable development projects, by inviting students to become involved in their training process, so that they can play a real part in it. Focus on agriculture, renewable energies and sustainable building.

*Non-contractual program, subject to change. A minimum of 10 students is required.*



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contact@accentfrancais.com

Duration

**3 WEEKS**

Location

**MONTPELLIER**



**PERIOD:** June, July

French ⊕ Sciences & University housing

**€2,900**

French ⊕ Sciences & Host family

**€2,900**

# 3 WEEKS AT ACCENT FRANÇAIS MONTPELLIER



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## WEEK

# 1

### MONDAY

#### > Morning Montpellier city tour:

Montpellier is voted #1 city in France for its quality of life with 300 days of sunshine per year! This is the place to be to discover historical treasures of the Occitanie.

#### > Afternoon French course

### TUESDAY

#### > Morning Sustainable development session with Enercoop:

**Conference :**  
The challenges and levers of the energy transition: what can you do if you work in the renewable energy sector?

**Speaker: Tom DESBERTRAND**, EPF engineering diploma / Enercoop Languedoc-Roussillon

#### > Afternoon French course

### WEDNESDAY

#### > Morning Sustainable development session with Enercoop:

Workshop on designing a rooftop solar installation in order to simulate a self-consumption photovoltaic installation project.

**Speaker: Elsa MELLON** - Photovoltaic Research Officer and Project Management Assistance / Enercoop Languedoc-Roussillon and **Luc MARCHAND** - Renewable Energy Project Manager / Enercoop Languedoc-Roussillon.

#### > Afternoon French course

### THURSDAY

#### > Morning Sustainable development session with Enercoop or Climate fresco with the University of Montpellier :

Visit and presentation of a ground-based photovoltaic energy production site, which is also the first park to be financed and managed by citizens on a former landfill site, without any money from the banks.

**Speaker : Elsa MELLON** - Photovoltaic Project Manager and Project Management Assistance.

#### > Afternoon French course

### FRIDAY

#### > Morning Sustainable development session with Enercoop or Climate fresco with the University of Montpellier:

Conference on adapting

buildings to climate change: what solutions?

**Speaker: Sébastien EYMA** - State diploma in architecture.

#### > Afternoon French course

### SATURDAY

#### > Full day: excursion to Pezenas, Canal du Midi, Béziers, plage volcanique (volcanic beach).

### SUNDAY

#### > Free day



WEEK

2

MONDAY

> **Morning Presentation of the University of Montpellier:** Visit to the EQUINOXE residence, ECOE participative housing and its eco-construction model.

> **Afternoon French course**

TUESDAY

> **Morning Sustainable development session with Enercoop: Workshop on the circular economy in the building industry.** Assessing the environmental benefits of a materials reuse project by calculating the environmental impact of carbon and waste.

**Speaker: Mathieu MUTEL** – Director of the Capronis and Rémutéo design offices and **Gabriel BRASSEUR** - Capronis.

> **Afternoon French course**

WEDNESDAY

> **Morning Sustainable development session with Enercoop:** Conference: 'How is the agro-ecological transition shaping up in France?'

**Speaker: Daniella BLAKE** is an agricultural economic researcher, writer and storyteller.

> **Afternoon French course**

THURSDAY

> **Morning Sustainable development session with Enercoop:** Workshop 'Analysing the effectiveness and agroecological relevance of an agroforestry system, through field interviews'.

**Speaker: Daniella BLAKE** is an agricultural economics researcher, writer and storyteller.

> **Afternoon French course**

.....

FRIDAY

> **Morning Free**

> **Afternoon French course**

.....

SATURDAY

> **Full day Excursion to Aix-en-Provence**

.....

SUNDAY

> **Free day**



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WEEK

3

MONDAY

> **Morning Sustainable development session with Enercoop:** Conference on agriculture.

> **Afternoon French course**

TUESDAY

> **Morning Sustainable development session with Enercoop:** Workshop on agriculture.

> **Afternoon French course**

WEDNESDAY

> **Morning Sustainable development session with Enercoop:** Renewable energy tour.

> **Afternoon French course**

.....

THURSDAY

> **Morning Cirad lecture:** Feedback from a researcher returning from expatriation and presentation of the UNESCO World Food Chair.

> **Afternoon French course**

FRIDAY

> **Morning Review of the program**

.....

SATURDAY

> **Departure day**



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3 WEEKS  
AT  
CIEL  
BRETAGNE  
BREST



BRETAGNE 

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# Science & technology OF THE SEA

Ciel Bretagne with Technopôle Brest Iroise, and Campus Mondial de la Mer offers a 3-week program for English-speaking students with beginner-level in French. This program includes visits conducted in English to companies and state-of-the-art laboratories, conferences on current and future engineering challenges and French language courses. The program also includes a wide selection of excursions and cultural visits centered on the theme of “Science and technology of the Sea”.

.....

## Ciel Bretagne

Un centre de formation

 CCI FINISTÈRE

Rue du Gué Fleuri  
29480 LE RELECQ-  
KERHUON/  
BREST

tel. +33 (0)2 98 30 45 75

[www.ciel.fr](http://www.ciel.fr)

[info@ciel.fr](mailto:info@ciel.fr)

Ciel Bretagne is affiliated with the Finistere Chamber of commerce and industry and has been teaching **French as a foreign language** for over 30 years. Each year, it welcomes between 400 and 600 students from all over the world.

International groups enable all participants to increase their knowledge of French, while excursions allow them to discover the natural and cultural heritage of beautiful Brittany.

**Research efforts in science, information and digital technology** are particularly intense in and around Brest, which, combined with Brittany's maritime heritage and focus, makes the theme of marine science and technology an obvious choice. The Brest area is **Europe's leading marine research center** in terms of the number of people, institutions, and companies involved in marine science and technology.



GET 6  
ECTS CREDITS  
WITH THIS  
PROGRAM



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The concentration of activity makes Brest one of the world's leading marine research areas. Brest has invested massively in the development of marine resources, for example, through an investment of more than €200 million to attract and support companies active in the field of sea-based renewable energies.

The city's university campus is also focused on the sea, with the European Institute for Marine Studies, a maritime law track in the law school, and ocean-oriented schools of engineering.

Other important actors in the sector - such as Ifremer, the Ecole Navale, Shom, and Cedre - also operate in and around Brest.

It is in this context that Ciel Bretagne has developed a program that enables students to improve their French while exploring one of the **most beautiful regions of France** and advancing their knowledge of one of the most promising fields for the future of our planet.



COURSE CONTENT

30  
HOURS  
PER WEEK

■ **French-language instruction and thematic activities cover 30 hours a week over 3 or 4 weeks:**

- > 15 hours of instruction each week in French as a foreign language, enabling students to acquire or improve their oral and written

communication skills;

- > A program of visits to companies and institutes specialized in the field of marine resources;
- > A program of cultural visits to discover the attractions of the Brittany region.

*Non-contractual program, subject to change. A minimum of 10 students is required.*

Duration

**3 WEEKS+**



Location

**BREST**

PERIOD: January, July, August

French ⊕ Sciences & University housing

**€2,385**

French ⊕ Sciences & Host family

January  
(2 weeks)

**€1,990**

July

**€2,950**

August

**€2,806**

# 3 WEEKS AT CIEL BRETAGNE BREST



© Synto



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## Ciel Bretagne

Un centre de formation



Rue du Gué Fleuri  
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WEEK

1



### THURSDAY

> **Morning Meeting workshop to get to know each other, your plans and expectations**

> **Afternoon Visit to Brest: The purpose of this tour is to discover the history of the city viewed through its maritime past.**

Brest has always been marked by its geographical proximity to the sea, and it remains true nowadays. Students will be able to discover the multiple facets of the city through its ports, the Rade (a sheltered bay of 180km<sup>2</sup> that provides ideal conditions for water sports all year), its castle, and the famous Rue de Siam.



© Pixabay, B. Heschung

### FRIDAY

> **Scientific seminar at Technopôle Brest A presentation on the region's vibrant maritime culture provides a good view of scientific activity in and around Brest,** where 60% of French research linked to the sea is conducted.

Brest is home to the highest concentrations of research and development in Europe in fields such as marine safety and security, as well as the development of sea-based renewable energy. Université de Bretagne Occidentale (ranked 5th in Shanghai ranking - oceanography field, in 2023), France Energy Marine, Campus Mondial de la mer and pole mer will be among the speakers.

### SATURDAY

> **The Rance Dam: Near the Mont-Saint-Michel, which stands in the middle of a vast bay surrounded by Europe's most extreme tides, the Rance Dam is located between Dinard and Saint Malo.**

This power plant draws its energy from the strong local tides and used to be the largest in the world, from its creation in 1966, until 2011.

### MONDAY

> **Morning French language study**

> **Afternoon Visit to Océanopolis.**

An aquarium with European dimensions and a recreational centre focused on the oceans. With three pavilions – tropical, polar, and temperate (reflecting the Brittany region) – there is plenty to explore, such as the otter trail, which is especially impressive.

### TUESDAY

> **Morning French language study**

> **Afternoon Technature Laboratories:**

Founded in 1986 by Christine Bodeau, a biochemist fascinated with algae, TechNature Laboratories is today France's leader in the design of marine health care products for spas and thalassotherapy centres.

### WEDNESDAY

> **Morning French language study**

> **Afternoon 70.8, a museum for the ocean:**

The sea occupies 70.8% of our planet and represents a real

environmental and societal challenge for tomorrow. This museum draws on scientific expertise to address the following three major themes: a resource area for the future, a navigation territory, studying the ocean to better understand it.

### THURSDAY

> **Morning French language study**

> **Afternoon Visit of Ecole navale, the Naval academy school.**

This Higher education military school trains officers and opens its doors so that the students can witness the daily life of future officers and the programs in place. During the year, many partnerships with foreign naval and military academies and major maritime universities are signed.

### FRIDAY

> **Morning French language study**

> **Afternoon Free time**

### SATURDAY

> **The Guerlédan hydroelectric dam, located in the heart of Brittany, is a century-old dam that is part of Brittany's industrial heritage.**

This dam delivers electrical energy in a very short time, making it highly efficient at responding to consumption peaks on the network.



© Photography

WEEK

2

MONDAY

- > Morning French language study
- > Afternoon Shellfish aquaculture:  
Visit to the Breizhmer Applied Research Center which was created in 2022 in partnership with the Regional Committee for Shellfish Farming of Northern Brittany (CRCBN) to innovate, perpetuate and develop fishing and shellfish farming activities while respecting the sea, its resources and those who work there.



© Pixabay, Galvagealis

TUESDAY

- > Morning French language study
- > Afternoon Cedre is a non-profit set up after the spill from the tanker Amoco Cadiz.  
Its goal is to improve France's capacity to respond to pollution from accidents. Cedre is responsible for the documentation, research and experimentation on pollutants, their effects, and how to deal with them.



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WEDNESDAY

- > Morning French language study

- > Afternoon Haliotika the city of fishing:  
This immersion aboard the reconstructed trawler 'Bara Breizh' is an open door to the daily life of fishing sailors.



© Pixabay, Visavennam

THURSDAY

- > Morning French language study
- > Afternoon The port captaincy plays a key role in welcoming ships to the port, acting as the conductor of this operation.  
From the lookout, the port officers communicate with the ship's captain, organise the manoeuvres and inform the service providers of the imminent arrival of the ship, so that everything is ready to welcome it in the best possible conditions.

FRIDAY

- > Morning French language study
- > Afternoon Free

SATURDAY

- > At the Cité de la Voile, Eric Tabarly in Concameau you will discover the world of sailing and ocean racing through an interactive tour (navigation simulators, radio-controlled sailboat basin, etc.).  
A visit to a submarine in the former Lorient base will also immerse you in the naval history of the Second World War.

WEEK

3



MONDAY

- > Morning French language study
- > Afternoon boat tour in the harbour of Brest, to let yourself be lulled by the waves and by the history of these coasts, the marine base, and the ship repair factories.



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TUESDAY

- > Morning French language study
- > Afternoon Scientific French Workshop to prepare the conference.



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WEDNESDAY

- > Morning French language study
- > Afternoon Free

FRIDAY

- > Morning French language study
- > Afternoon Conference



© Pixabay

SATURDAY

- > Departure

THURSDAY

- > Morning French language study
- > Afternoon Scientific French Workshop to prepare the conference.

**4 WEEKS**  
AT CLA  
UNIVERSITÉ  
DE FRANCHE-  
COMTÉ  
**BESANÇON**  
DIJON - BELFORT



© Unsplash

# MICRO, NANO & SMART TECHNOLOGY

## For industrial applications

The Center for Applied Linguistics (CLA) of the University of Franche-Comté in Besançon has collaborated with Campus France and the Graduate School EIPHI of the Federal University of Bourgogne Franche-Comté to provide a new program of the French + Sciences in Besançon, Dijon and Belfort. This program will be offering language, cultural and scientific immersion focusing on micro and nanotechnology for industrial applications.



Designed for English-speaking students, this program includes classes in French as foreign language (FLE) from A1 to B2 level, meetings with researchers, visit of laboratories such as FEMTO-ST and ICB organized by PhD students, and a wide range of excursions and cultural activities.

centres to develop a program of practical foreign language courses based on linguistics research applied to the science of education and active learning methods.

CLA, founded in 1958, was one of the first university language

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PROGRAM



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With 4,000 international students every year, CLA is the most important university language centre in France. It has been recognized with the highest grade of the label Quality FLE delivered by the French government.

The Graduate School EIPHI (standing for "Engineering and Innovation through Physical Sciences, High-technologies, and cross-disciplinary research") provides the training of the scientific part. It is based on seven top ranking international research laboratories: FEMTO-ST, ICB, IMB, UTINAM, ICMUB, IMVIA and LMB. EIPHI provides international Master and PhD programs covering thematic fields such as mathematics, physics, micro nanoscience and systems, computer science, mechatronics, as well as materials and energy. Their research activities can be fundamental or applied, and regularly produce a socioeconomic impact. The institutes rely on high-level technology, equipment and technological platforms.

The Bourgogne-Franche-Comté region is a French tech labeled region through three centers of excellence: HealthTech, IoT and FoodTech.



COURSE CONTENT

**30 HOURS PER WEEK**

■ **French as a foreign language: 15 hours per week**

- > Acquisition of oral and written communication skills;

- > Development of intercultural competence.

■ **Micro, Nano and Smart Technology: 15 hours per week**

- > Introduction to 8 topics of scientific research at University of Bourgogne Franche-Comté;
- > Participation in tutorials and lab works;
- > Visits to state-of-the-art laboratories and meeting with

- researchers;
- > Cultural tours.

■ **Student performance will depend on 3 points:**

- > Quality of the student's weekly journal and subsequent progress report;
- > Degree of participation in program activities;
- > Progress in French as a foreign language.

*Non-contractual program, subject to change. A minimum of 10 students is required.*

Duration

**4 WEEKS**



Location

**BESANÇON**  
BELFORT DIJON

PERIOD: January, June

French ⊕ Sciences & University housing

**€1,960**



# 4 WEEKS AT CLA UNIVERSITÉ DE FRANCHE- COMTÉ BESANÇON DIJON - BELFORT



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## WEEK

# 1

### MONDAY & TUESDAY

- > **Morning French class**
- > **Afternoon Challenges of Micro & Nano Systems:**  
This course addresses the challenges of the miniaturization of more and more complex and powerful systems. From the concept of nano-robots able to perform noninvasive surgeries, to smart Mechatronic systems that invade our daily life, nano and micro structures have a key role in the upcoming industrial revolutions. Understanding and mastering the manufacturing at such scales is an important challenge. Students will be visiting the Mimento technological platform.

- > **Afternoon Non-linear fiber optics:**  
This is a very dynamic topic of research due to the wide range of possible applications, from high-bit-rate telecommunications to novel optical source development for material processing, environmental sensing and medicine. This short course will be covering recent advances in modern non-linear fiber optics, with a focus on novel optical frequency combs with a wide spectral range that can be extended to the mid-infrared. Those disruptive fiber optic instrumentations enable remote detection of volatile compounds and diagnosis of health pathologies. Visits of FEMTO-ST research facilities will be proposed.

### FRIDAY

- > **Morning French class**
- > **Afternoon Evaluation**

### SATURDAY

- > **All day Excursion to Haut-Doubs: Guided tour**  
Château de Joux, lunch at a typical Franche-Comté inn, boat trip on the Doubs River, and discovery of the Saut-du-Doubs waterfall near the Swiss Border.



### WEDNESDAY & THURSDAY

- > **Morning French class**

## WEEK

# 2

### MONDAY & TUESDAY

- > **Morning French class**
- > **Afternoon Green Energy for Mobility:**  
Committing to the energy transition and the reduction of greenhouse gas emissions requires new technological developments. Fuel cells and storage batteries are very promising alternatives to carbon-based energy sources. Increasing their competitiveness on the economic market is a priority issue in order to allow a large-scale use and the recycling of electric power sources, in the context of the expansion of the electric vehicle fleet and stationary applications. This course will be introducing the

- concept of smart grids and focus on the design of complex multiphysics systems integrating hybrid electrochemical sources. Students will be offered a visit of FC-Lab and Thermal Energy Lab.

- These limits become particularly relevant when simulating quantum systems and emulating neural networks. In this course we will introduce quantum information processing and neural networks and show that the two concepts share common denominators which are relevant for future hardware implementations.

### WEDNESDAY & THURSDAY

- > **Morning French class**
- > **Afternoon Neural Networks & Quantum Computing:**  
The digital electronic computer we got so used to in the past decades is reaching its performance maximum. Unfortunately, this is the consequence of fundamental physical hardware limitations and the restrictions of Turing computing.

### FRIDAY

- > **Morning French class**
- > **Afternoon Evaluation**

### SATURDAY

- > **All day Excursion to Lausanne (Switzerland)**

WEEK

3

**MONDAY & TUESDAY**

- > **Morning French class**
- > **Afternoon Smart & Green Mechanics:**  
This course will address the design of innovative solutions for applications such as vibroacoustic control (NVH), Structural Health Monitoring (SHM), Shape Control, or Energy Harvesting for instance. Different subjects such as smart materials with multiphysic behaviors or embedded sensors and actuators in the field of acoustics, heat transfer, or electro-magnetics will be covered through a lecture, labwork and a visit of the S.MART technological platform.

France has always played a key role in the field of time-frequency metrology. In this course, we will present the basic tools, the state of the art and the main applications of this domain. Subjects such as oscillators and atomic clocks (in the microwave and optics domains), quantum phenomena and superradiance will be covered.

**FRIDAY**

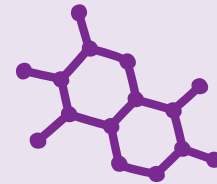
- > **Morning French class**
- > **Afternoon Evaluation**

**SATURDAY**

- > **All day Excursion to Dijon**



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**WEDNESDAY & THURSDAY**

- > **Morning French class**
- > **Afternoon Time-Frequency Metrology & Quantum Physics:**

WEEK

4

**MONDAY & TUESDAY**

- > **Morning French class**
- > **Afternoon Innovative Drugs & Nano-technologies:**  
Recent years have witnessed unprecedented growth of research and applications in the area of Nanoscience and Nanotechnology. There is increasing optimism that nanotechnology, as applied to medicine, will bring significant progress in the diagnosis and

treatment of several diseases. Anticipated applications in medicine include drug delivery, diagnostics, cell therapy and production of biocompatible materials. This course presents the state of the art of this domain and the research conducted locally. A visit of ICB research facilities related to this topic will be offered.

**WEDNESDAY & THURSDAY**

- > **Morning French class**
- > **Afternoon**  
**Wednesday:**  
Micro, nano & soft Robots laboratory visit.  
**Thursday:**  
Clean Room laboratory.

**FRIDAY**

- > **Morning French class**
- > **Afternoon Evaluation**





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