

**3 OR 4 WEEKS**  
AT  
CLA  
UNIVERSITÉ DE  
FRANCHE-COMTÉ  
**BESANÇON**



# MICROTECHNOLOGY AND BIOMEDICAL ENGINEERING

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The Center for Applied Linguistics (CLA, Centre de linguistique appliquée) at the Université de Franche-Comté, in association with Campus France, offers a program of language, cultural, and scientific immersion on the topic of microtechnology and biomedical engineering in partnership with ISIFC, a school of biomedical engineering; the university's faculties of medical and pharmaceutical sciences and of natural and technical sciences; U-SPORTS; and the Innov'Health and PMT microtechnology clusters.

**UNIVERSITÉ**   
**FRANCHE-COMTÉ**



CENTRE DE LINGUISTIQUE APPLIQUÉE  
UNIVERSITÉ DE FRANCHE-COMTÉ

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Designed for English-speaking students, the program includes guided tours of state-of-the-art companies and laboratories, lectures in English on current and upcoming issues in the engineering professions, classes in French as a foreign language (FLE), and a wide range of excursions and discovery activities.

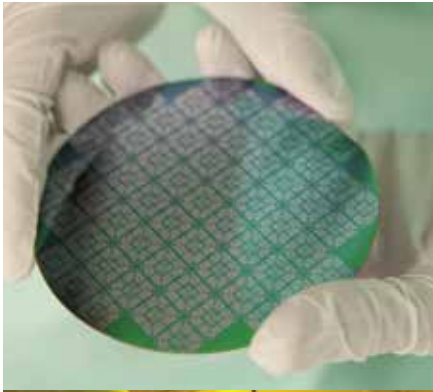
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**CLA – Center for Applied Linguistics, internationally recognized**  
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CLA, founded in 1958, was one of

the first university language centers to develop a program of practical foreign language training based on linguistics research applied to education and on active learning methods: language labs, a focus on communication skills, self-teaching, and learning through immersion. About 4,000 students come to CLA each year from all over the world.

CLA is a member of CampusFLE, a group of university-based French-language centers devoted to promoting French as a language of study in academic training programs.





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### Le Grand Besançon (Greater Besançon), a member of the FRENCH TECH network

Affiliated with the **microtechnology competitiveness cluster**, Greater Besançon is an industrial ecosystem based on the region's historical strengths in the field of microtechnology – a large part of them in the health sciences. For a decade, some 300 local companies have been active in the field, most of them enjoying international recognition and support from well-known training and research centers such as EFS (the French blood organization), ISIFC, Femto-ST, LERMPS, Utinam, and the Centre d'Investigations Cliniques.

In 2016, Greater Besançon and the microtechnology competitiveness cluster joined the **Health Tech France network (a component of the prestigious French Tech organization)** demonstrating the innovative and creative capacity of region's start-ups in the field of the medicine of the future.



GET 6 TO 8 ECTS CREDITS WITH THIS PROGRAM



### 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.
- **Microtechnology and biomedical engineering – 15 hours per week**
  - > Introduction to the faculty and facilities of the Université de Franche-Comté in the field of microtechnology and biomedical engineering ;
  - > Participation in conferences and scientific debates ;
  - > Visits to state-of-the-art companies combining microtechnology and biomedical applications ;
  - > 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

**3 or 4 WEEKS**



Location

**BESANÇON**

PERIOD: January-February

#### 3 WEEKS

French ⊕ Sciences & University housing

**€2,000**

French ⊕ Sciences & Host family

**€2,300**

French ⊕ Sciences & Private apartment

**€2,700**

#### 4 WEEKS

French ⊕ Sciences & University housing

**€2,400**

French ⊕ Sciences & Host family

**€2,800**

French ⊕ Sciences & Private apartment

**€3,400**

3 weeks program: 6 ECTS credits - 4 weeks program: 8 ECTS credits

## MONDAY

- > **Morning** French language study
- > **Afternoon** Tour of Besançon

a city of art and history with a proud heritage, a green city with an exceptional natural environment, a student-friendly city where one in five inhabitants is a student, and a business-friendly city ranked 1<sup>st</sup> in its category.



© Ville de Besançon

## TUESDAY

- > **Morning** French language study
- > **Afternoon** Visit to the Université de Franche-Comté

**Introduction to the science and technology programs offered** in the university proper and its affiliated engineering schools; visits to research facilities.



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## WEDNESDAY

- > **Morning** French language study
- > **Afternoon** Presentation on the programs of the ISIFC, the Franche-Comté Institute of Engineering

ISIFC trains aspiring biomedical engineers specializing in biomechanics and microsystems, bioengineering, and e-health.

**Presentation on Biotika, a company** founded within ISIFC in 2006 and integrated into the ISIFC curriculum to enable students to discover all aspects of a biomedical engineer's job and life in an engineering consultancy firm.

## THURSDAY

- > **Morning** French language study
  - > **Afternoon** Thematic Conference
- The biomedical engineer: What sort of work in what kinds of jobs in France and abroad?**

Telemedicine, clinical research, medical imaging... A comprehensive look at job prospects in the medical sector with opportunities to meet with research faculty, students, and medical professionals.



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# WEEK 1

## FRIDAY

- > **Morning** French language study
- > **Afternoon** Students prepare their weekly report and meet with a CLA instructor to review and assess progress.

## SUNDAY

- > **Excursion – Discovery of the Haut-Doubs area**
- Guided tour of the 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.



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## WEDNESDAY

- > **Morning** French language study
- > **Afternoon** Presentation on the Innov'Health

competitiveness cluster led by industry representatives. The cluster's activities encompass product development and high tech processes related to the medicine of the future: Medical devices and implants; innovative therapies and personalized medicine; e-health and the Internet of Things; the European Silver Economy; well-being and nutrition.

## THURSDAY

- > **Morning** French language study
- > **Afternoon** Visit to STATICE SANTÉ company.

Stalice Santé designs and manufactures surgical instruments; silicone implants and other biomaterials; and implants carrying active ingredients, sensors, and micro-dosing functions.

## FRIDAY

- > **Morning** French language study
- > **Afternoon** Students prepare their weekly report and meet with a CLA instructor to review and assess progress.

## SATURDAY

- > **Excursion – Discovery of the Burgundy region**

Guided tour of the city of Dijon, the regional capital, with its outstanding architectural heritage. Guided tour of the Hospices de Beaune / Hôtel Dieu de Beaune, founded in 1443.



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# WEEK 2

## MONDAY

- > **Morning** French language study
  - > **Afternoon** Thematic Conference
- Engineering and biocompatible prostheses.**

Cochlear implants, lens implants, neuroprostheses. Speaker: Member of ISIFC faculty.



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## TUESDAY

- > **Morning** French language study
- > **Afternoon** From basic research to industrial partnership: visit to FEMTO-ST, France's largest engineering research lab.

FEMTO-ST unites engineering and information and communication sciences and technologies. Its research activities often have a socioeconomic impact in sectors such as energy and transportation, health, telecommunications, space sciences, instrumentation and metrology, watch-making, and luxury goods.



# WEEK 3

## MONDAY

> **Morning French language study**  
 > **Afternoon Thematic Conference**  
**Mechanics, electronics, automatic systems – smart structures and systems.** Speaker: Member of the Faculty of Natural and Technical Sciences, Université de Franche-Comté.

## TUESDAY

> **Morning French language study**  
 > **Afternoon Discovery of IFR, the research institute for cellular and tissue biology and engineering**  
 IFR brings together research units working in biology and health at the Université de Franche-Comté, at the university hospital center, and at the Bourgogne-Franche-Comté office of EFS, the French blood agency.

## WEDNESDAY

> **Morning French language study**  
 > **Afternoon DIXI Medical** designs, develops, manufactures, and markets medical devices all over the world for use in functional neurosurgery and other purposes. DIXI Medical is a member of the microtechnology competitiveness cluster and of the Innov'Health cluster.

## THURSDAY

> **Morning French language study**  
 > **Afternoon Scientific debate: Medicine of the future: virtual or digital, will it remain human?**  
 Students, guided by a PhD candidate and their CLA instructors, will reflect on the debate and present their own views.

## FRIDAY

> **Morning French language study**  
 > **Afternoon Students prepare their weekly report** and meet with a CLA instructor to review and assess progress.



## SATURDAY

> **Excursion to Strasbourg**  
**European capital, headquarters of the European Parliament.** Guided tour of the city-center (a UNESCO World Heritage site).



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# WEEK 4

## OPTIONAL

## MONDAY

> **Morning French language study**  
 > **Afternoon Career path of a French Tech startup and tour of OneFit Medical, founded in 2011**  
 Onefit Medical's project focuses on the topic of patient-specific orthopedic surgery using products that can be adapted to any joint.

## TUESDAY

> **Morning French language study**  
 > **Afternoon Interactive presentation: Athletic performance and scientific measurement.** The presentation will outline how sports psychology, exercise physiology, and the biomechanical analysis of movement come together to break athletic records. Speaker: Member of the U-SPORTS faculty at UFC



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## WEDNESDAY

> **Morning French language study**  
 > **Afternoon Research and innovation: the EPSI platform.**  
 The EPSI platform (exercise, performance, health, innovation) is a space where academic, hospital, and private-sector partners can meet to conceive and refine research projects that require specific facilities, physiological research equipment, and staff trained in research methods and practices.



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## THURSDAY

> **Morning French language study**  
 > **Afternoon Scientific debate: Are there any limits to athletic performance?**  
 With the participation of U-SPORTS faculty and students. CLA students, guided by a PhD candidate and their instructors, will reflect on the debate and present their own views.

## FRIDAY

> **Morning French language study**  
 > **Afternoon Completion of students' weekly log** Final meeting with CLA instructor to review and assess student progress.  
**Farewell party.**

**SATURDAY** > **Departure**