



# INTERNATIONAL SEMESTER



## INDUSTRIAL CERAMICS AND PROCESSING

Unique in France, this speciality will prepare you with specific knowledge and skills relevant to the processing of non-metallic mineral materials. The training incorporates a comprehensive approach to powder preparation, forming and firing of ceramic bodies and is associated with process engineering.



### WHO IS CONCERNED?

International students for their various curricula part of european (ERASMUS) and international exchange programmes.

### WHEN DOES THE PROGRAM TAKE PLACE?

Spring semester, 1st February - 30th June  
(A minimum of 15 weeks of classes)

### ENGLISH IS THE COMMON LANGUAGE USED IN EVERY COURSE.

### ADMISSION FEES

2000 € (Erasmus students and some of our partners are exempt from these costs).  
The real cost of the semester is 7500 € but the complementary cost is supported by the French government.



### CAREER OPPORTUNITIES



Strategic industrial sectors such as:

- automotive
- aeronautics and aerospace
- electronics and ICT
- medical
- energy
- metallurgy
- environment and sustainable development
- design and housing
- civil engineering and more



# MORE ABOUT THE INTERNATIONAL SEMESTER...

## TRAINING INSTITUTIONS

- ENSIL-ENSCI (National Higher Engineering College)
- The Faculty of Sciences and Technologies

## RESEARCH LABORATORY

IRCER, Institute of Research for Ceramics, laboratory internationally recognized for Ceramics and Surface Treatments Processes

## TRAINING

### 20H A WEEK + TECHNICAL PROJECT

### ECTS

<b>GENERAL TOPICS</b>	Initiation to French language and discovery of French culture** Industrial ecology : sustainability and recycling** Project Management/Test plan management* Ceramic processing and applications review		<b>5</b>
<b>INDUSTRIAL CERAMICS AND PROCESSING</b>	Surface engineering and applications: overview		<b>7</b>
	Formulation and shaping	Introduction Mineral materials and technical ceramics Wet route shaping Plastic and dry processing Glasses and functionalization	
	Consolidation routes and sintering	Drying of ceramics Conventional sintering Non conventional sintering Consolidation at moderate temperature	
	Practical work		<b>3</b>
<b>PROPERTIES OF USE AND CHARACTERIZATION*</b>	Ceramic and Film properties	Thermal properties* Mechanical properties	<b>6</b>
	Surface, microstructural and chemical characterization*	Electron Microscopy Diffraction Vibrational spectroscopy Surface characterization	
	Practical work		<b>3</b>
<b>TECHNICAL PROJECT*</b>			<b>6</b>

\*Common modules with the «Materials and Surface Treatments engineering» international semester

\*\*Common modules for all the international semesters of ENSIL-ENSCI

### EDUCATIONAL CONTACT

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### ADMINISTRATIVE CONTACT

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