

Live an

# INTERNATIONAL EXPERIENCE IN FRANCE

Come to ENSEM !

LORRAINE  
**INP** Ensem

GRADUATE SCHOOL OF ENGINEERING SINCE 1900



# NANCY A STUDENT CITY

A HISTORICAL AND CULTURAL CITY, IN THE HEART OF EUROPE



With more than 52000 students, Nancy is the perfect city to study.

Everything is done so that students can live, work and feel at home.

Student life is rich and dynamic.

The number of students in the city means many services are dedicated to facilitate their daily life.



#### Accommodation:

Many student residences with very affordable rents



#### " Restos U "

Student cafeterias and restaurants on campus and all around the city



#### Transports

buses and tramways right outside ENSEM



#### Sports

practice more than 50 sports activities for free



Place Stanislas, registered on the Unesco World Heritage List in 1983, is the pride of Nancy and wins admiration from visitors.



THE ARC HÉRE TRIUMPHAL ARCH  
Sitting on a pedestal, this Corinthian triumphal arch is inspired by the Arch of Septimius Severus in Rome.



#### SAINT NICHOLAS WEEKEND ON THE FIRST WEEKEND OF DECEMBER

En route for UNESCO, the 40 days of festivities boast music, events, a great weekend parade and the entire city filled with lights.



NANCY IN 2023  
The Grand Nancy thermal project

# Renewable Energy ENGINEERING



**By completing the program in renewable energy engineering at ENSEM you will acquire scientific and technical knowledge on various forms of renewable energy (wind, solar, hydrogen, hydropower)**

More specifically, you will have the opportunity to acquire advanced knowledge in :  
renewable energies, electrical and mechanical energy storage, control, smart and micro energy grids, forecasting and optimization of energy systems.

**Your training will be very hands-on and you'll have access to specialized equipment :**

fuel cells, solar panels, wind turbines, hydropower turbines, Grid Converters for Photovoltaic and Wind Power Systems, Multiphase electric machines, micro-grid integrated into our campus, IoT simulator and sensor platforms (LoRa).

COURSES

Program in English  
for exchange students  
Fall semester



ENERGY PLATFORM



## COURSES (LECTURES, LABS AND PROJECTS)

### SOURCES AND STORAGE 80H - 6 ECTS

- Introduction to hydrogen and fuel cells technologies
- Storage components (electric storage and generation)
- Solar photovoltaic design and installation

### POWER TO THE GRID 80H - 6 ECTS

- Hydraulic and Wind Power
- Power generation system connected to the grid

### SMART GRIDS - MICRO GRIDS 80H - 6 ECTS

- Electric power quality
- Energy management in microgrids
- Smart grid modeling and co-simulation

### OPTIMIZATION 80H - 6 ECTS

- Optimal design of a local energy network
- Optimization of a heat network
- Control and optimization of energy systems

### LANGUAGE, COMMUNICATION AND CULTURE 80H - 6 ECTS

- French language and culture
- Cross-cultural communication
- Energy economics: issues related to renewable energies

detailed course content



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