

Student Mobility FACT SHEET



UNIVERSITÉ
DE LORRAINE

INP Ensem

Erasmus Code : F NANCY43

ENSEM WEBSITE

Home:

<https://ensem.univ-lorraine.fr/en/engineering-school/>

International page:

<https://ensem.univ-lorraine.fr/en/study-at-ensem/>

INTERNATIONAL RELATIONS OFFICE

Contact:

ensem-international@univ-lorraine.fr

Head of international office: Stéphanie Gallaire

stephanie.gallaire@univ-lorraine.fr / +33 3 72 74 44 19

Assistant: Latifa Zoua

latifa.zoua@univ-lorraine.fr / +33 3 72 74 44 20

APPLICATION PROCESS

1. NOMINATION

Send an email with nomination table (semester and program of mobility at ENSEM, name of the student, email address, field and level of education) to:

drie-mobilite-contact@univ-lorraine.fr and copy ensem-international@univ-lorraine.fr

> Deadline for nominations:

- 1st semester (Fall): May 15th
- 2nd semester (Spring): October 15th

2. APPLICATION

After nomination, the student will receive an email with a link to register on our platform (Mobility Online) and with the instructions on the process (forms to fill and required documents to upload)

> Deadline for applications:

- 1st semester (Fall): May 31st
- 2nd semester (Spring): October 31st

PROGRAMS AVAILABLE FOR EXCHANGE STUDENTS

Program taught in English: Renewable Energy engineering

- 30 ECTS credits
- From the end of January to the end of May
- Master level
- Minimum required level : to have validated at least 6 undergraduate semesters
- Link: <https://ensem.univ-lorraine.fr/en/exchange-courses/>

Single courses to choose from Energy Engineering or Digital Systems Engineering

Choice of courses taught in English (Elec Eng- Mech eng) in Semester 9-Fall semester

- From semester 5 to semester 9 (3rd to 5th year of higher education)
- Link: <https://ensem.univ-lorraine.fr/en/ensem-degrees/>

Research projects: supervised in English in the fall or spring semester (unpaid)
(between 6 and 25 ECTS credits)

ACADEMIC CALENDAR

Fall semester: September to January (Semesters 5, 7 and 9)

Spring semester: Mid January to June (Semesters 6 and 8)

ACADEMIC INFORMATION

Full semester = 30 ECTS credits (about 400h)

All courses are available to exchange students.

Courses from different degrees and semesters cannot be mixed.

Grading systems: from 0 to 20. Pass grade =10

USEFUL INFORMATION

For more information, various French administrative procedures, accommodation, etc. please visit:

> <https://www.univ-lorraine.fr/welcome/en/home>

> Or our [FAQ](#)

Renewable Energy ENGINEERING

LORRAIN
INP Ensem

ÉCOLE D'INGÉNIEURS CRÉÉE EN 1900

**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

Sources and storage
Power to the grid
Optimization
Smart grids
Micro grids
Language, communication
and culture

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

ensem.univ-lorraine.fr/en



Short Syllabus

RENEWABLE ENERGY ENGINEERING

LORRAINE
INP Ensem

ÉCOLE D'INGÉNIEURS CRÉÉE EN 1900

Fall Semester (September to December) or Spring Semester (January to May)



PROGRAM DESCRIPTION

The program in renewable energy engineering at ENSEM is aimed at making students acquire scientific and technical knowledge on various forms of renewable energy (wind, solar, hydrogen, hydropower)

It enables to acquire advanced knowledge in renewable energies, electrical and mechanical energy storage, control, smart and micro energy grids, forecasting and optimization of energy systems.

The training is very hands-on and students 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, or IoT simulator and sensor platforms (LoRa).

Renewable Energy Engineering

Course reference	Course name
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	EU Sources and Storage
	Introduction to Hydrogen and Fuel Cell Technologies
	Storage Components (Electric Storage and Generation)
	Solar Photovoltaic Design and Installation

	EU Power to the Grid
	Hydraulic and Wind Power
	Power Generation System connected to the grid

	EU Smart Grids - Micro Grids
	Electric Power Quality
	Energy Management and Microgrids
	Smart Grid Modelling and Co-Simulation

	EU Optimization
	Optimal Design of a Local Energy Network
	Optimization of a Heat Network
	Control and Optimization of Energy Systems

	EU Language, Communication and Culture
	French Language and Culture
	Cross-Cultural Communication
	Energy Economics : Issues Related to Renewable Energies

Lectures	Lab work	Student workload	Hours	ECTS	Pass Grade	More info
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12	12	24	48	6	10	
6	2	8	16			
4	4	8	16			

10	8	20	38	6	10	
12	10	20	42			

6	8	12	26	6	10	
8	8	12	28			
6	9	11	26			

2	6	6	14	6	10	
10	8	18	36			
8	6	14	28			

18	0	18	36	6	10	
5	0	5	10			
17	0	17	34			

TOTAL	400	30
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LORRAINE INP Ensem

GRADUATE SCHOOL OF ENGINEERING SINCE 1900



École Nationale Supérieure
d'Électricité et de Mécanique



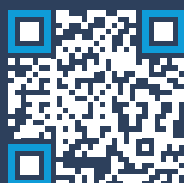
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