

STUDENT LIFE

You will also participate to the lively Grenoble student life. A whole variety of activities are offered by clubs and societies that allow you to take part in activities of your interests: sports (leading centre for mountain sports), charity work (ISF/Engineers without borders), international relations (BEST/Board of European Students of Technology), leisure activities (comics, astrology), music ...



ECOLE NATIONALE SUPERIEURE
DE L'ENERGIE, L'EAU ET L'ENVIRONNEMENT

Domaine Universitaire
11, rue des Mathématiques
BP 46
38402 St Martin d'Hères cedex
France
<http://ense3.grenoble-inp.fr>

Contact :
international.ense3@grenoble-inp.fr

<http://master-smartgrid-energy.grenoble-inp.fr>



Grenoble is a town with a large student population (60 000, around one tenth of the population), young and relaxed, cosmopolitan, with a healthy cultural and sporting life.

At 3 hours from Paris by train, at the foot of the Alps and world famous ski resorts, Grenoble is a town in which you can feel the influence of Italy and the Mediterranean sea.

Grenoble INP-Ense3 04 76 82 63 17 - Crédits photos P. Avavian, C. Morel, ©Pavillon Rhône Alpes, A. Sangiorgio, A. Chezrière,

Grenoble INP
ENSE3

INTERNATIONAL MASTER OF SCIENCE IN ELECTRICAL ENGINEERING FOR SMART GRIDS AND BUILDINGS

Boosting your skills in these areas of the future

Graduating from this master you will gain expertise in managing the full actual and future energy chain taking into account the environmental and societal aspects. You will be able to take up the challenges associated with the new energy order and landscape. You will receive a solid engineering know-how with economics, sociology, regulation and convergence between ICT and energy (Cyber Physical Systems).

<http://master-smartgrid-energy.grenoble-inp.fr>

ÉCOLE NATIONALE SUPÉRIEURE
DE L'ÉNERGIE, L'EAU ET L'ENVIRONNEMENT

Welcome to Grenoble INP Ense³

Owing to its outstanding scientific environment and its pioneering activities linked with hydroelectricity, Grenoble has always been at the forefront of the development of new technologies in the field of energy and water management. Taking full advantage of this background, the Ense³ school trains high-level engineers, masters and doctors able to take up the challenges associated with the world new energy order, with the worldwide increasing demand of water, both in quantity and quality, and with the sustainable development and country planning.



Training method

The teaching method is a gradual approach towards autonomy and knowledge appropriation: traditional lectures, tutorials, applying knowledge in technological platforms shared with research (PREDIS and CIME Nanotech) or software packages, multidisciplinary practical projects, visits.

The education programme is oriented to develop your innovation and entrepreneurial spirit.

A student coach will be assigned to each student during the 20 months to guide them in their knowledge, skills and know-how and by solving practical problems.

Master thesis

During the last semester, you will perform your Master thesis by working in an industrial firm or a research laboratory, in France or abroad. In a professional environment, you will discover and consolidate working methods and learn how to manage real projects that test your autonomy as well as your capacity for entrepreneurial leadership. At the end of the thesis, you have to write a report and defend your work in front of a jury.

Laboratories: G2Elab, Gipsa Lab, G-SCOP, SIMAP, Institut Néel, ...

Companies: ALSTOM, AREVA, CEGELEC, EDF, ERDF, FORCLUM, Gaz de France, GEG, INEO, MGE/UPS, PSA, RENAULT, RTE, SCHNEIDER ELECTRIC, SUEZ, VINCI, ...



Program content

This international master is a 20 month full-time Master's programme (120 ECTS).

Master 1st year

Semester 1 (November – January, 17 ECTS*)

- Integration
- Upgrades and electricity qualification
- Course "Modeling and advanced grid management"

Semester 2 (February – May, 30 ECTS)

- Personal development
- Economy, Regulation and Environment
- Data processing
- Process and Energetic vectors
- Energy uses
- Energy system

Research project in a laboratory (June - July, 13 ECTS)

Master 2nd year

Semester 3 (September – January, 30 ECTS), common training and two options

- Culture and language
- Economics and society
- Sociology and acceptability
- Convergence of ICT and Energy (Cyber Physical Systems, Cyber Security, Distributed Database, Advanced Metering Infrastructures)
- Conversion and Storage
- Option *Building* (Urban energetics, Optimization of energy systems dedicated to building)
- Option *Power grid* (Distribution and transmission networks, Autonomous power grids, Superconducting power devices)

Semester 4 (February – June, 30 ECTS)

- Master thesis

* ECTS - European Credits Transfer System : The ECTS guarantees the mutual academic recognition of studies carried out abroad.

Admission requirements

Bachelor degree in either Science (BSc) or Engineering (BEng) including courses in electrical Engineering.

Selection on the basis of prior academic and/or scientific achievement as documented by academic transcripts, a cover letter, references, and standardized test scores.

Students from countries where English language is not the primary language are required to provide TOEFL test scores.

Application deadline: before May 15th each year for the following november start
Download application form on our website

Tuition fees : Please visit our website <http://master-smartgrid-energy.grenoble-inp.fr>
Grants are available and training period in companies are paid.

