

To prepare
for **future**
challenges in
the **geosciences**

eost
engineering
school



École et observatoire

des **sciences de la Terre**

Université de Strasbourg

School of Engineering Geophysics

Opportunities

Engineering graduates would expect to be employed by companies and organisations involved in the study of the crust and the understanding of geological processes so as to:

- Seek and exploit underground resources (hydrocarbons, water, ores).
- Manage the geological environment, natural hazards, pollution, storage and geotechnics.
- Improve awareness and monitoring of the planet (Earth, ocean, space) and prepare for the energy transition.

Some examples:

- Energy companies (TotalEnergies, ENGIE, Shell)
- Geophysical service companies (CGG, PGS...)
- Geotechnical companies (Bouygues, Fondasol, Terrasol...)
- Public Agencies (CEA, IFPEN, BRGM...)
- Research organisations and institutions of higher education (CNRS, Universities, IRD...)

Enrolment

1st year entrance examination

- CC INP exams for MP, PC, and PSI preparatory class students.
- G2E (Geology Water, Environment) exams for BCPST preparatory class students.

Enrolment by application

- First year enrolment for holders of an L2 or L3 (Bachelor’s degree), in a predominantly mathematics, physics or Earth sciences oriented course.
- Second year enrolment for holders of an M1 (first year of Master’s degree) in the same disciplines.

More than half of the engineering students at EOST are women.

The admissions panel selects candidates at the beginning of July according to the grades achieved in their university curriculum.

Skills

After completing their degree, students from EOST are able to use and develop all geophysical methods, for which they know the theoretical principles and experimental and field techniques. They use the different methods for the modelling and treatment of geophysical data. They know the key questions at different scales in space and time arising from the complexity of natural media. They are aware of the crucial economic and social stakes associated to energy, raw materials, water and environment. They are prepared to work in multicultural companies with offices worldwide.

Trainings

The training the engineering students receive is based on the in-depth study of geophysical methods, the geological environment and the mathematical and computing tools used for data processing and interpretation.

1st and 2nd years
Compulsory modules
Mathematics, IT, numerical analysis, signal processing, inverse methods, mechanics, electromagnetism, seismic waves, geology, English, economy, management, exploration and exploitation of underground resources (hydrocarbons, water, ores)
Optional modules
Seismology, seismic imaging, geodesy, gravimetry, potential methods, rock physics, hydrology, geochemistry
Practical work
Collecting geophysical data in the field and in the laboratory, geophysics fieldwork in the Vosges mountains, structural geology fieldwork in the Alps
IT project, research project in geophysics
4 week-long summer internship in a laboratory
Undertaking a supervised research project or working within a company to gain commercial experience
3rd year
External speakers on exploration and production, energy and mineral resources, geothermal energy, geotechnics, the environment, natural hazards and hydrology
Fieldwork in subsurface geophysics in Alsace
6 month-long internship with a company (in France or abroad) leading to a thesis required for graduation
Three courses to choose in the third year
Geophysics applied to exploration and production of raw materials
Geophysics applied to geotechnics, hydrology and environment
Geophysics applied to the energy transition
Students wishing to move into research may in parallel undertake the 3rd year of the Engineering School and the second year of the Earth Sciences Master.



Educational Resources

Around thirty faculty members of EOST, many external teachers, lecturers and tutors from industry are involved in the training of the students. Three computer labs, a library, a practical geophysics laboratory and rooms for private work as well as relaxation are available to the students. A range of geophysical equipment is provided for use during field trips. The 2nd year research project is conducted in a research laboratory or observatory of EOST. Each Student is monitored individually by a scientist.

Community life

The school has two student associations and an alumni association, Géophyse.

The Student’s Union, Le Bureau Des Élèves (BDE) aims to enhance the student life at the school. The association organises social activities (integration weekends, theatre, sports activities) and offers discounted group purchases on books and study materials.

The EOST EAGE Student Chapter is a French section of the European Association of Geoscientists and Engineers. The chapter aims to inform students about the world of engineering geophysics to improve their employability. It organises site visits, field trips and lectures throughout the academic year. It also organises the annual participation of the school at the EAGE annual conference and exhibition.

School of Engineering Geophysics

Founded in 1920, the «Ecole et Observatoire des Sciences de la Terre» is the only French Engineering School devoted to geophysics. Courses combine solid theoretical training with laboratory work as well as more practical field work in conjunction with the industrial sector.

As part of the University of Strasbourg, EOST offers an engineering degree that is recognised by the Engineering Titles Committee.

Our values

- **Scientific expertise:** our training guaranties excellence in geophysics, specifically answering the needs of the industrial sector.
- **Team spirit:** projects and internships enable the sharing of knowledge and experiences.
- **Opening:** We encourage diversity and a multicultural and international spirit.

Environment

➤ **University education**

Strasbourg University is one of France’s largest universities with 57,000 students, (20% foreign students), and almost 2,800 lecturers and researchers. (The University has well established connections within the European community.) The School and Observatory for Earth Sciences, EOST, is incorporated into the University of Strasbourg and part of the Alsace Tech network of Engineering Schools in Alsace. The EOST is a major centre for education and training in the geosciences in France, providing the courses required for an engineering diploma, as well as Bachelors and Master’s degrees in Earth and Environmental Sciences. EOST also typically hosts about 70 doctoral students.

➤ **Research**

The EOST consists of 200 people working at the central campus in the CNRS research unit (the Strasbourg Institute of Earth and Environment, ITES) and the observatories associated to the CNRS (in seismology, gravity, magnetism and the environment).

➤ **Culture**

With the culture card, students have low cost access to a wealth of cultural attractions and performances such as shows, theaters, cinemas, museums and exhibitions in Alsace.

➤ **The City**

Due to the richness and density of its heritage, the entire city centre of Strasbourg was declared a World Heritage Site by UNESCO. Renowned for its beauty, the city is also famous for its history, lifestyle and cuisine. Strasbourg is a very cosmopolitan city at the heart of Europe, and is home to the European Parliament, the Council of Europe, the European Court of Human Rights and around twenty European organisations and international bodies. It is also a city which for decades has encouraged more environmentally-friendly forms of transport, (trams, cycling, walking). The “Strasbourg aime ses étudiants” initiative (“Strasbourg loves its students”) helps each year to promote student life and facilitate the arrival of students to the area.

Partnerships

After completing the second year of the school, the students of the EOST Engineering School have the opportunity to spend 2 years in one of our partner engineering schools and therefore to obtain a degree from two schools in 4 years. Partners: École Nationale Supérieure de Géologie de Nancy, École Nationale des Sciences Géographiques, Mines Nancy.

In the framework of exchange partnerships Erasmus+ students from EOST have the opportunity so spend a semester or a year in the following universities: Imperial College London (United Kingdom), University of Oslo (Norway), NTNU-Trondheim (Norway), LMU-Munich (Germany), University of Clausthal (Germany), University of Trieste (Italy), University of Barcelona (Spain), University Complutense of Madrid (Spain).

180

ECTS credits

40%

lectures

60%

practicals
and internships

92%

employment
after 6 months

30%

employment
outside France

contact

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