



Education

for the **geophysical**

careers of tomorrow

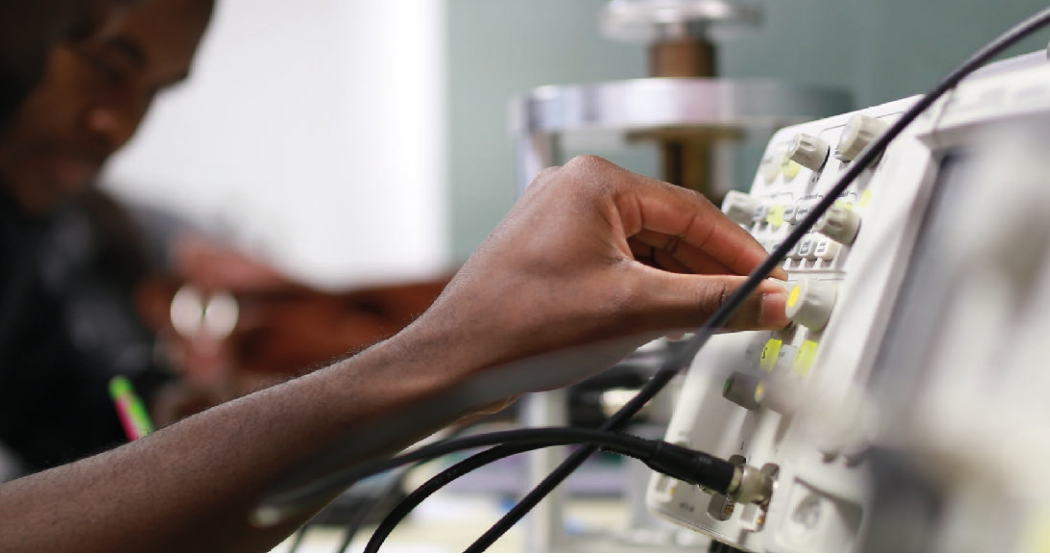
EOST *engineering* *degree*



École et observatoire

des **sciences de la Terre**

Université de Strasbourg



The engineering diploma from the School and Observatory of Earth Sciences

A 3-year program in geophysics

EOST's engineering program is a cutting-edge training that takes place over 3 years. It combines theoretical and practical teaching taught by research professors and people from industry. It includes a minimum work experience of 8 months in a company.

Strasbourg, EOST engineer

EOST is the only engineering school in France in the field of geophysics. As part of the internationally renowned University of Strasbourg, it offers excellent teaching in the geosciences, based on its proximity to its research laboratory, the Strasbourg Institute of Earth & Environment (ITES). Approved by the Engineering Qualifications Commission (CTI) to deliver the engineering diploma, EOST gives its students the tools they need to work in a constantly changing professional environment and to become expert engineers in geophysics. Throughout their studies, students are given the opportunity to get involved in research projects, laboratory and field experience, internships in companies, and community life.

Training objectives

Engineers graduating from EOST are specialists in geophysics who are destined to work in companies and organisations involved in subsurface exploration and the understanding of geological processes.

At the national level, EOST is recognised as the only engineering school specialising in geophysics. EOST engineers work in various fields, such as energy exploration, geotechnics, water, environment, natural hazards, and the monitoring of the Earth. Thanks to their knowledge and skills in geophysics, they play a major role in the innovative sectors of energy transition and carbon-free underground energies (deep geothermal energy, CO2 storage, lithium exploration, etc.).

skills

On completion of their training, EOST engineering students are able to implement and develop all geophysical methods, for which they possess a solid understanding of the theoretical bases as well as experimental and field techniques. They use modelling and geophysical processing methods. They are familiar with the problems posed at different spatial and temporal scales by the complexity of natural environments. They are aware of the considerable economic and societal issues in the energy, raw materials, construction and public works, water and environment sectors. They are prepared to carry out their future profession in multicultural companies operating all over the world.

Program

1st year

Scientific courses

Mathematics, computer science, continuum mechanics, physics of the Earth, potential and electromagnetic methods, tectonics, geophysics research, mathematics and signal processing, computer science applied to geophysics, seismic waves, space geodesy and GIS, fluid mechanics and underground flows, geological materials and rock cycles, geophysics in an international context.

Humanities and social sciences courses

Languages, Economics, industrial property, health and safety, PSC1 first aid training, corporate social and environmental responsibility

Practical courses

Geophysical measurements in the laboratory, IT project, geology field camp (Alps), internship (minimum 4 weeks)

2nd year

Scientific courses

Signal processing, numerical analysis, seismology, geodesy and orbitography, seismic modelling, rock physics, global Earth and fluid dynamics, sedimentary basins, inverse methods, potential methods, seismic imaging, hydrogeology, geomagnetism, soil mechanics and chemistry.

Humanities and social sciences courses

Languages, financial management, business choices, health and safety at work, life cycle analysis

Practical courses

Geophysical laboratory measurements, geophysical research project, borehole geophysics, logging field work, internship (minimum 4 weeks)



3rd year

Core curriculum courses

Geostatistics, English, aspects of energy economics, corporate strategy, subsurface geophysics field course, energy and society seminars

Optional courses

Energy: Seismic processing and inversion, reservoir modelling, petroleum geology, seismic imaging of geological heterogeneities, geothermal energy, numerical methods, soils, multiphase and complex transfers, AI in geoscience.

Geotechnics, Water and the Environment Geotechnics: Materials Resistance Applied to Civil Engineering, Potential and Electromagnetic Methods, Seismic Risk, Rock Physics, Hydrogeophysics, Geochemical Tools and Mineral Reactivity

Geosciences for the energy system transition: Geothermal energy, monitoring: active and passive methods, controversy and the energy systems transition, geochemistry and renewable georesources, big data AI, sub-surface storage, thermo-hydromechanical modelling, independent research, geothermal Field School

6-month industrial internship

In France or abroad

Career opportunities

Engineers graduating from EOST apply geophysical methods worldwide for :

- geophysical service companies specialising in subsurface prospecting exploration ;
- companies in the energy (carbon and decarbon) and raw materials sectors;
- engineering consultants and public works companies involved in surface, subsurface, geotechnical, water and environmental activities;
- companies developing instruments, geophysical software and data processing;
- organisations involved in monitoring the planet, the sea and glaciology;
- Agencies in charge of managing the underground, the environment and natural hazards;
- higher education and research;
- scientific and technical dissemination.



Admission

1st year entrance requirements

- Competitive entrance examination (CCINP) for Maths spéciale students (MP, PC, PSI, MPI). G2E competitive entrance examination for BCPST students. Application file for students with an undergraduate level (120/180 European credits) in Earth Sciences or Physics or from a DUT in physical measurements (180 credits).

2nd year entrance requirements

- Application file for students with a graduate level (240 European credits) in Earth Sciences or Physics or an equivalent degree.

Double degree

At the end of the second year, EOST students have the opportunity to spend 2 years in one of the partner engineering schools and, in 4 years, obtain an engineering degree from both schools

Partner schools

- National School of Geology (École nationale supérieure de géologie, ENSG Nancy)
- National Higher School of Environment, Georesources and Sustainable Development Engineering (École nationale supérieure en environnement, géoressources et ingénierie du développement durable, ENSEGD Bordeaux)
- Polytech Sorbonne Paris
- National School of Meteorology (École nationale de la météorologie, ENM Toulouse)
- National School of Geographical Sciences (École nationale des sciences géographiques, ENSG Géomatique Marne la Vallée)
- Mines Nancy

Students have the opportunity to follow the EOST Master 2 in Earth Sciences in parallel with their third year.

Once graduated from the engineering school, students can also complete their training with a Master's degree in business administration from Alsace Tech. This course lasts 4 months, plus a 6-month work placement or job. The course is provided by the Strasbourg School of management de Strasbourg.

International

Students at the engineering school are required to spend a minimum of 17 weeks abroad. This can take the form of summer internships in years 1 and 2, or an engineering internship in year 3. Students can spend a semester or a year studying at one of our European partner universities as part of the ERASMUS programme.

Strasbourg university campus

With over 50,000 students, Strasbourg is renowned for the quality of its student, cultural, associative and sporting life. EOST, located on the central Esplanade campus, benefits from all the services offered to students: university and community services, libraries, health, etc.



The CROUS

Accommodation
Canteen
Health
Culture



Strasbourg by bike

A city on foot, by tram or by bike



Events of all kinds

Strasbourg is a cultural city with easy access to shows & concerts to students



Paris-Strasbourg

Direct TGV line
1h45 journey

contacts

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