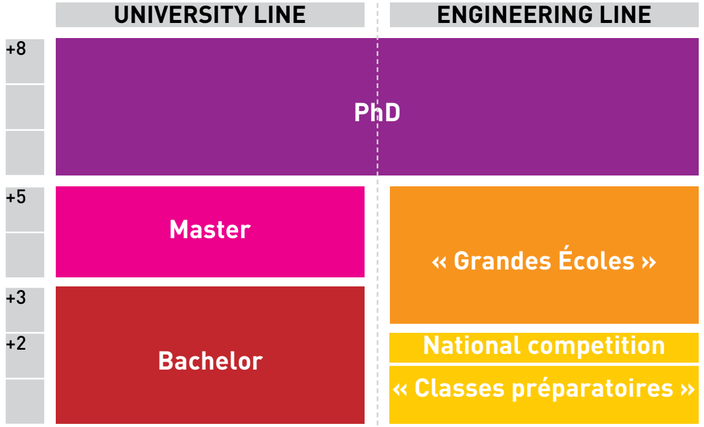
Grenoble INP phelma

Grenoble INP - Phelma, School of Physics, Applied Physics, Electronics and Materials Science within the Grenoble Institute of Technology and « Université Grenoble Alpes »

Phelma is part of an extensive academic and research structure in Grenoble. This network comprises the Grenoble Institute of Technology, which as a merger of 6 « Grandes Écoles » devoted to Engineering Sciences, is the largest group to train engineers in France. It also regroups the « Université Grenoble Alpes », which includes the University of Grenoble with Human and Social Sciences, Sciences and Medicine, and Humanity topics.

Phelma, the excellence of the French « Grande École »

As a « Grande École » devoted to engineering, Phelma has a very competitive selection process. Only the top 10% of the French students in science can access to this higher education system. After an intensive 2-year curriculum called « classes préparatoires », they are selected through a national competition to enter a « Grande École ». After a 3 year study period, they obtain a « diplôme d'ingénieur », equivalent to a Ms of Science in Engineering, enabling them to work as an engineer or to continue with a PhD. The Engineer diploma guarantees an optimal career path in France. The « Grandes Écoles » like Phelma are also accredited to deliver Master degrees. In that case, the recruitment is done by a specific committee.



Phelma, a wide range of academic programs and research in engineering

Focused on tomorrow's challenges, Phelma offers a complete spectrum of engineering thematics. With high qualified faculties and technology platforms, Phelma is the ideal place to develop scientific competences. The well-recognized research environment in Grenoble favors this innovation potential.

Key domains and Thematics in Phelma

Training offers and research centers in the following subjects:

- Micro and Nano-technologies (micro / nano-electronics, nano-sciences, materials, health, building, etc.),
- Energy (nuclear energy, renewable energies, accumulators, etc.),
- Innovative Materials (for aeronautics, automobiles, sport & leisures, health, microelectronics, energy, etc.),
- Information Technology (digital technologies, image and signal processing, telecommunications, computer science & networks, embedded softwares, etc.),
- Biomedical Engineering (medical imagery and therapy, nanobiology and medical devices, etc.)
- Environment (eco-processes, energy management, natural signal analysis, etc.)

Academic programs at Phelma

After a 1-year common core, Phelma offers the following master level specialties:

- Electrochemistry and Processes for Energy and the Environment
- Materials Science and Engineering
- Reactor Physics and Nuclear Engineering Specialty
- Physics and Nanoscience
- Biomedical Engineering
- Integrated Electronic Systems
- Signal and Image Processing, Communication Systems, Multimedia
- Embedded Systems and Software
- Telecommunications

Training labs at Phelma

Lab sessions make up 30% of the training offered at Phelma. High technology platforms available for studies:

- CIME-Nanotech is an inter-university center offering several platforms: clean room, electrical characterization, systems on chip, biotechnology, hyperfrequency...
- Nuclear physics training lab for radioactivity, cosmic rays or tomography study.
- Industrial Chemistry training lab which contains semi-industrial equipment for practical training in electrochemistry, process engineering and fluid mechanics.
- Large international scientific instruments: the European Synchrotron (ESRF) and a neutron reactor (ILL) are located in Grenoble and Phelma's students access those instruments for mater exploration.

Grenoble's scientific environment: training, research and industries

According to Forbes magazine (2013), Grenoble is the 5th most inventive city in the world. This is due to strong links between:

- Higher education: 1 out 5 residents is a student and 42% are in scientific fields
- Research: Grenoble is the second largest French scientific researcher cluster with well-known labs: CEA-LETI, ESRF, ILL, EMBL, IBS, IAB, GIN, CLINATEC, TIMA, LIG, IMEP-LAHC, SIMAP, GIPSA-lab, LMGP,...
- Innovative industries: ST Microelectronics, CEA, BD, Biomérieux, EDF, Capgemini, Soitec, Schneider Electric, HP, Motorola, Xerox, Caterpillar,...

All these professionals are involved in five major high-tech sectors: Electronics and Micro-nanotechnologies, IT and Software, MedTech and Health Care, Energy Technologies, Chemical and Cleantech.

Grenoble is also an international city with 4 out of 10 industrial jobs in foreign-owned companies and 45% of foreign PhD students.

KEY FIGURES

732,800 INHABITANTS

NUMBER ONE AREA FOR RESEARCH JOBS

NUMBER TWO AREA FOR ENGINEERING JOBS

25,000 R&D JOBS

470 FOREIGN-OWNED COMPANIES WITH MULTINATIONAL CORPORATIONS (MAINLY AMERICAN, GERMAN AND ENGLISH)

A TRADE SURPLUS OF MORE THAN €1 BILLION

200 START-UPS CREATED OVER THE PAST 10 YEARS FROM PUBLIC RESEARCH

60,000 STUDENTS WITH 42% ENROLLED IN SCIENTIFIC PROGRAMS

YOUNG POPULATION, QUALIFIED WITH STRONG SCIENTIFIC FOCUS

10% OF THE STUDENTS ARE INTERNATIONAL STUDENTS

2ND LARGEST ENGLISH SPEAKING COMMUNITY IN FRANCE

Student life

Situated in a unique natural environment in the heart of the French Alps, Grenoble is a city with an enjoyable way of life, where anyone interested in sport can live out his passion. The French press consistently ranks Grenoble at the top of the list of French cities where it is good to be a student. There are more than 30 student clubs and societies offering all sorts of varied activities and events. Whatever you are into - sport, culture, humanitarian action, leisure or career-oriented activities - there is something for you. This is an integral part of your student life and your training as an engineer.

Facilities

Accommodation, health, food, transport, clubs, sport... It is all laid on for you! More information: http://international.univ-grenoble-alpes.fr/en/

Testimonies

Hélène A., an engineering student at Phelma, discusses student life in Grenoble

Do you like the town and the region: its atmosphere, sports, culture, housing, etc.?

What I like about Grenoble is that it is very easy to get about by bike, and the fact that you can get wherever you want quickly is really great! And then there are all sorts of activities: walking, cycling, skiing, museums, the theatre, etc.

When research meets education: Interview with Marianne WEIDENHAUPT (PhD, Lecturer)

What are the advantages for a student to be taught by a researcher?

Combining teaching with research gives you the unique possibility to go beyond theories and models and propose projects and internships to the students so that they can be directly involved with ongoing science. It is also a source of motivation to encourage students to develop their own research projects and participate in international competitions, like iGEM, in the field of synthetic biology. Not to the least, the scientific network of the researcher is often a source of inspiration for the orientation and future professional carrier of the students.

Grenoble: 5th most innovative city in the world (FORBES)

Honors

- Jean KUNTZMAN - First computing lab (1951)
- Louis NÉEL - Physics Nobel Prize (1970)
- Joseph SIFAKIS - Turing Prize (2007)
- Rachid YAZAMI - Draper Prize (2014)
- Renaud BOUCHET - EDF Pulse Award in the Science category (2014)
- Alim Louis BENABID - Lasker-DeBakey Clinical Research prize (2014) & Breakthrough prize in Life Science (2015)

Press Rankings

- US News & World Report: 3rd best French Engineering School - 2014
- QS World University Rankings Engineering & Technology: leader in « Materials Sciences & Engineering » and « Electronics » - 2014
- L'Etudiant/L'Express: 6th among the 100 best french engineering schools - 2015
- L'Usine Nouvelle: 2nd among the 100 best french engineering schools - 2014
- Industrie et Technologies: 1st

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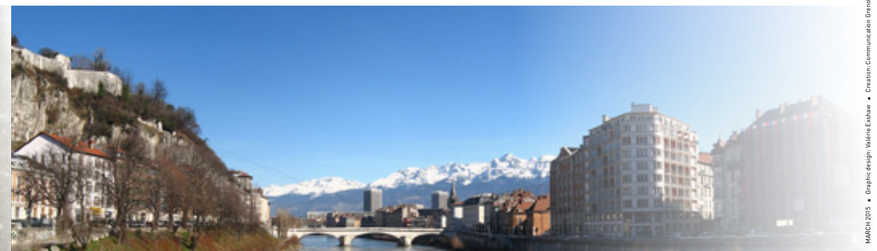

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Micro and Nano-technologies
Energy
Innovative Materials
Information Technology
Biomedical Engineering
Environment

Grenoble INP | 6 ENGINEERING SCHOOLS | 5 500 STUDENTS | 360 INTERNATIONAL PARTNERS | 37 LABORATORIES | 198 PATENTS AND SOFTWARES | 40 000 ALUMNI WORLDWIDE

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