

STUDY
IN
FRANCE

THE TITRE D'INGÉNIEUR

(NATIONAL MASTER'S DEGREE IN ENGINEERING)

Nearly 38,000 Engineering degrees are awarded in more than 201 French engineering schools qualified to confer the *Titre d'ingénieur*, which carries the academic status of a national Master's degree and entitles the holder to pursue doctoral studies. A third of these schools are found within universities. The product of a system unique to France, the *Titre d'ingénieur* represents professional degree training in one of 64 engineering and management specialties, capped by a government-accredited degree recognized around the world, attracting nearly 7,000 international students.



The *Titre d'ingénieur* is awarded upon the completion of a program of studies closely keyed to scientific and technical progress and the needs of companies that grapple with complex technical problems linked to the design, production, and implementation of products, systems, and services. To practice as an engineer, particularly in industry and civil engineering, technical, economic, social, and human knowledge must be grounded in a solid scientific foundation and complemented by an awareness of the principles of sustainable development.

In various subject areas with a scientific, technical, and industrial cast, the engineering curriculum prepares graduates for the essential functions of research and development, consulting, project management, management of

industrial processes, business management, human resources, and more.

The professional qualifications of graduate engineers cover a wide spectrum of basic sciences, enabling practitioners to combine the resources of a specialized scientific and technical field with engineering methods and tools to meet industrial and economic challenges in an international context.

The engineering curriculum spans 5 years (10 semesters, 300 ECTS credits). The **first 2 years** are spent in a preparatory program or equivalent program providing rigorous education in the basic sciences.

These preparatory years (whether spent in a special preparatory program offered in a *Lycée* or in the preparatory cycle of a postsecondary school of engineering) are followed by a highly selective admission process (based on an examination or an application). The best students are admitted to a program of **3 years of study** in engineering, management and international affairs. Holders of a first undergraduate degree or a 1-year Master's degree may apply to transfer into engineering programs.

Meet
industrial
and
economic
challenges

WHY PURSUE A DEGREE IN ENGINEERING IN FRANCE?

- You can look forward to an international career as an engineer made possible by a unique and universally respected degree.
- You will receive both a **Titre** conferring the right to practice as an engineer and an internationally recognized **Master's degree** in engineering.
- You will develop **twin competence** in engineering and management, both reflecting the realities of today's world.
- You will receive training attuned to the corporate world and to changes in manufacturing and industry.

The first 4 semesters of the engineering cycle form a common core that builds on students' basic knowledge of mathematics, physics, chemistry, mechanics, electronics, ... The student then chooses a specific sector in which to specialize. Engineering schools also offer options in business, management and finance, allowing students to prepare for positions as managers as well as engineers. Depending on the school, the training offered may be general or specialized. But all French engineering programs include the managerial and international dimensions. Moreover, the scope of education is comprehensive, embracing economics, humanities, the social sciences, communication, and culture, ... Growing numbers of courses are taught in English, and students must pass a test of English proficiency (B2 level in the European scheme) in order to graduate.



STRENGTHS

French engineering schools maintain close links with employers and businesses in general. Firms participate in schools' governance (for example, by serving on boards and helping shape the curriculum), and jointly developed training programs enable students to work on practical problems. All students complete several internships, during which they function at a variety of levels, from worker to project leader.

Students may also elect to take a year-long break before the last year of their program. Students spend that year working with a firm in France or abroad, generally working on a study or a consulting assignment.

Study abroad is of the curriculum, with the credits earned being counted toward the engineering degree. Proficiency in English is required. The opportunity to learn a second foreign language, and sometimes even a third, is offered. Some courses and subjects are taught entirely in English in classes open to students of all nationalities.

MAJOR FIELDS OF ACTIVITY IN ENGINEERING

- BIOENGINEERING
 - BIOMÉDICAL ENGINEERING
 - CHEMICAL ENGINEERING
 - CIVIL ENGINEERING
 - ELECTRICAL ENGINEERING
 - ENERGETICS (ENGINEERING)
 - HYDRAULIC ENGINEERING
 - INDUSTRIAL ENGINEERING
 - MARINE ENGINEERING
 - MECHANICAL ENGINEERING
 - MECHATRONICS
 - MICROBIOLOGY
 - PHOTONICS
 - CONTROL ENGINEERING
 - ELECTRONICS
 - MICROELECTRONICS
 - MICROTECHNOLOGY
 - ROBOTICS
 - ERGONOMICS
 - LOGISTICS
 - PACKAGING
 - PLASTICS ENGINEERING
 - PRODUCTION
 - RISK MANAGEMENT
 - TEXTILES (AND FIBRES)
 - BIOINFORMATICS
 - BIOTECHNOLOGY
 - HEALTH
 - SECURITY
 - AEROSPACE ENGINEERING
 - RAILWAY SYSTEMS
 - CONSTRUCTION ENGINEERING
- AGRO-INDUSTRY
 - AGRICULTURAL ENGINEERING
 - EARTH SCIENCES
 - ENVIRONMENT
 - FOOD ENGINEERING
 - GEOSCIENCES
 - HORTICULTURE
 - LANDSCAPE ENGINEERING
 - WOOD TECHNOLOGY
- COMPUTER SCIENCE
 - COMPUTER ENGINEERING
 - EMBEDDED SYSTEMS
 - INFORMATION SYSTEMS
 - INFORMATION TECHNOLOGY
 - INSTRUMENTATION
 - IT NETWORKS ENGINEERING
 - GEOMATICS • DIGITAL SYSTEMS
- MULTIMEDIA ENGINEERING
 - TELECOMMUNICATIONS
 - APPLIED MATHEMATICS
 - CHEMISTRY
 - MECHANICAL ENGINEERING
 - MECHATRONICS
 - MICROBIOLOGY
 - PHOTONICS
 - CONTROL ENGINEERING
 - ELECTRONICS
 - MICROELECTRONICS
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 - RAILWAY SYSTEMS
 - CONSTRUCTION ENGINEERING





THE FRENCH NATIONAL COMMISSION ON ENGINEERING DEGREES

CTI, the French commission on engineering degrees, was founded in 1934 to assess and accredit higher education institutions conferring the title of graduate engineer (ingénieur diplômé).

Its missions :

- > periodic **evaluation of engineering programs in French institutions;**
- > **evaluation of engineering programs offered by foreign institutions;**
- > definition of the **engineer's core skills** (master's level);
- > advice and analysis on **questions relating to the title of engineer;**
- > **promotion of a culture of quality assurance;**
- > actions favoring **academic and professional recognition of the title of engineer;**
- > evaluation of engineering programs for purposes of conferring **labels of quality** (EUR-ACE, CeQulnt, and the quality label of the *Franco-Chinese Institutes*).

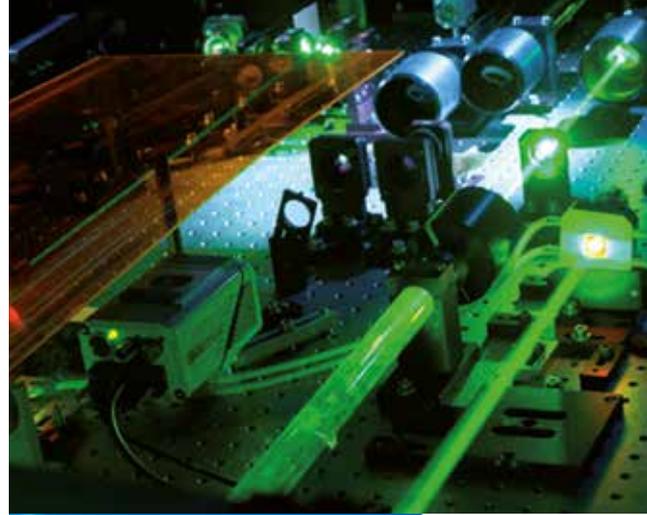
www.cti-commission.fr/accreditation

INTERNATIONAL RECOGNITION

The French *Diplôme d'ingénieur* is **recognized as equivalent to a Master in Engineering in the United States** by the American Association of Collegiate Registrars and Admission Officers and appears in AACRAO's Electronic Database for Global Education. <http://edge.aacrao.org>

Since 2007, the French national commission on engineering degrees (CTI, see above) has awarded the **EUR-ACE® at Master level quality label** to French engineering programs that meet the quality criteria established for Europe by ENAEE, the European Network for Accreditation of Engineering Education. The label facilitates student mobility, particularly within Europe. More than 400 French programs have earned the EUR-ACE label.

EUR-ACE : <http://eurace.enaee.eu>



THE TITRE D'INGÉNIEUR (EQUIVALENT TO A NATIONAL GRADE MASTER'S DEGREE) OPENS THE WAY TO DOCTORAL STUDY OR TO A SHORT, SPECIALIZED GRADUATE DEGREE, SUCH AS AN INSTITUTION DIPLOMA OR A MASTÈRE SPÉCIALISÉ.

USEFUL LINKS

- Accredited engineering programs: www.cti-commission.fr/accreditation
- Admission to and enrollment in preparatory classes: www.admission-postbac.fr
- Admission Cycle Ingénieur Ecole Polytechnique www.polytechnique.edu/admission-cycle-ingenieur
- "Become an engineer": www.deviensingenieur.fr
- CDEFI (the conference of directors of French engineering schools): www.cdefi.fr
- CGE (Conférence des Grandes Écoles): www.cge.asso.fr
- Concours CentraleSupélec (13 écoles): <https://www.concours-centrale-supelec.fr>
- Concours Communs Polytechnique (63 écoles): <http://ccp.scei-concours.fr>
- Concours écoles d'ingénieurs: www.scei-concours.fr
- Concours Mines-Ponts: <http://mines-ponts.fr>
- Concours E3A (Arts et métiers, ESTP Paris, Polytech): www.e3a.fr
- CPP for the INPs (national polytechnic institutes): www.la-prepa-des-inp.fr
- CPI (integrated preparatory cycles, Fédération Gay Lussac): www.20ecolesdechimie.com
- CTI (French national commission on engineering degrees): www.cti-commission.fr

- Digischool Ingénieurs: www.ingenieurs.com
- Écoles Centrales: www.groupe-ecoles-centrales.fr
- ENAEE (European Network for Accreditation of Engineering Education): www.enaee.eu
- Examination office of ENSEA (École nationale supérieure de l'électronique et de ses applications): <http://concours.ensea.fr>
- Fédération européenne des associations nationales d'ingénieurs, FEANI: www.feani.org
- Federation of schools of chemistry and chemical engineering (Fédération Gay Lussac): www.20ecolesdechimie.com
- FESIC (federation of postsecondary schools of engineering and management): <http://fesic.org>
- Geipi Polytech examination: www.geipi-polytech.org
- Grandes Écoles (33 écoles): www.grandesecoles-postbac.fr
- IESF (engineers and scientists of France company): www.iesf.fr
- Groupe INSA (national institutes of applied sciences): www.groupe-insa.fr
- Institut Mines-Télécom: www.mines-telecom.fr
- National schools of engineering: www.ingenieur-eni.fr
- Network of France's universities of technology: www.3ut-admissions.fr
- National network of the polytechnical schools of engineering: www.polytech-reseau.org
- Parcoursup, admission to higher education in France platform: www.parcoursup.fr
- Planète TP, tout sur les travaux publics: www.planete-tp.com
- Study Engineering in France (the n+I network): www.nplusi.com
- Top Industrial Managers for Europe, TIME: www.time-association.org
- UGEI (union of independent grandes écoles): www.ugei.org



GOOD TO KNOW



■ The engineering degree corresponds to 10 semesters of postsecondary study that carry a total of 300 ECTS credits.

■ After earning a scientific baccalauréat or equivalent secondary-school diploma, students complete 2 years of scientific and technical training before seeking admission (either by taking an entrance examination or by submitting an application) to an engineering program authorized to confer the professional title of engineer.

The first 2 years may be spent in a program designed to prepare students for admission to the French *Grandes Écoles* or in an equivalent program that is similarly selective.

■ **Annual national tuition** (set by law) is 601 euros for the 2018-2019 academic year. In some schools, the annual tuition may be between 1,500 to 4,000 euros in public institutions and more than 6,000 in private ones. These figures do not include the costs of entrance examinations.

LEARN MORE ABOUT FRENCH DEGREES IN THE RESOURCES CENTER.



www.campusfrance.org

- >Resources center
- >Educational and research programs
- >Degree descriptions