

# White Paper: Elite Education in France and the *Grandes Écoles*

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French higher education embraces essentially two sectors: the university sector and the domain of the *grandes écoles* (literally ‘great schools’ in English). The *grandes écoles*, both public and private, generally offer only professional education while the universities offer higher education in the arts, sciences, and some professional fields. The *grandes écoles*, with only a few exceptions (a handful dealing with civil service and administrative education or communications and media), largely provide advanced education in engineering and engineering sciences or in business and commerce. The oldest ones date back to the eighteenth century though most came into being after World War II. They have traditionally been the avenue for education and training of the political, administrative, military, and corporate elite in France.

Admission into the *grandes écoles* differs from that of the universities and is quite rigorous, which is part of the reason for their popularity among French students. Following the *Baccalauréat*, which marks the end of the secondary education cycle, the prospective student to a *grande école* of any type enrolls in *classes préparatoires aux grandes écoles* (preparation classes for the *grandes écoles*), often referred to simply as CPs or CPGEs. This two-year course of study most commonly takes place in a *lycée* (upper secondary school), but the curriculum is clearly post-secondary in nature (referred to by the French as ‘post-Bac’). The general courses studied are designed to prepare students for the extremely competitive entrance exam known as the *concours*. The curriculum differs depending on the type of *grande école* chosen for further study (engineering or business or other). Grading is quite severe, as might be expected given the severe approach to assessment that pervades the entire French educational system. Upon successful completion of the CPs and a sufficiently competitive result on the *concours*, students are admitted into the *grande école* of choice. The two-year CP, together with the *concours*, is the most common pathway and entry point into the *grandes écoles*.

## ***Grandes Écoles: Écoles d’Ingénieur (Engineering Schools)***

For those entering an engineering *grande école* after the CP, the next three years will be spent on engineering subjects that will ultimately result in the generic degree and title of *Diplôme d’Ingénieur* (Diploma of Engineer). This is the degree and title regardless of the actual discipline or subject (Civil, Mechanical, Electrical Engineering or even Computer Science). A small number of students may enter the *grande école* directly after the *Baccalauréat*, completing the full five years there. However, the two years of *classes préparatoires*, followed by three years at the *grande école*, remain the

traditional route.

Regardless of the pathway taken, there are five years of post-secondary (post-Bac) study leading to the *Diplôme d'Ingénieur*. This has been the case since at least 1994. Furthermore, with the onset of the Bologna-compliant new degree structure in the universities (*Licence-Master-Doctor* or L-M-D sequence) which began in 2004, the *grandes écoles* have been affected in two important ways. When the Bologna Process was first promulgated in 1999, it was assumed that the professional degrees in signatory countries would remain unaffected and adhere to the traditional structure. While the engineering *grandes écoles* did keep the titles (*Diplôme d'Ingénieur*) and their 2+3 configuration, which differ from the university L-M-D and 3+2 structure, they did embrace the use of ECTS (European Credit Transfer System), and the degrees were legally equated to the university *Master* degree. In addition to the title of *Diplôme d'Ingénieur*, these diplomas also have the designation of *Grade de Master* (Level of Master). Indeed, since 1999, the *Grade de Master* designation has been automatic for *Diplômes d'Ingénieur* from schools accredited by CTI, or *Commission des Titres d'Ingénieur* (Commission on Engineering Titles). The total number of ECTS credits for the five-year experience, including the *classes préparatoires*, is 300 ECTS or 150 US semester hours.

The *classes préparatoires aux grandes écoles* take place in a *lycée* which is the upper secondary school in France. However, these are select *lycées*. So, on the same campus, one finds the upper secondary students studying toward the *Baccalauréat*, as well as those who have already passed the *Bac* and are now studying for the *concours* to get into the engineering (or business) *grande école* of their choice. The curriculum for the engineering CPs consists of two years of study in mathematics, physics, chemistry, technology, and/or engineering, depending on the track chosen (Mathematics & Physics; Physics, Chemistry & Engineering; or Physics, Technology & Engineering). There will also be some time spent on Literature and Philosophy. The study load over two years will exceed 1800 hours (compared to 1300-1400 in a science program in a university). While the study is accumulating 120 ECTS credits, students are also preparing for the *concours*, the *grande école* entrance exam, success on which determines admission into a *grande école*, and particularly the *grande école* of choice.

Upon successful admission into the engineering *grande école*, the student then studies for three years (180 ECTS credits on top of the 120 already achieved with the CPs). The syllabus will vary with the specific engineering track (civil, mechanical, electrical, etc.), but compulsory courses include Mechanical Manufacturing, Theory of Mechanisms, Solid Mechanics, Materials Resistance, Thermodynamics, Fluid Mechanics, Electronics, Logic, Signal Processing, General Automatic Control, Probability and Statistics, Numerical Analysis, Advanced Calculus, Computer Studies, and Culture & Communication. The completion of all three years results in the award of the degree *Diplôme d'Ingénieur* along with the designation *Grade de Master*. Due to the elite nature of the *grandes écoles*, graduates seldom continue on to higher academic levels but immediately enter

private or public employment. They are eligible to pursue a *Mastère Spécialisé* (one-year post *grande école* study), but, again, most immediately enter the corporate sector or public service.

Initially, when EDGE was first rolled out, EDGE France contained Credential Advice for the *Diplôme d'Ingénieur* that called it comparable to a US bachelor's degree. This decision was based on three factors:

- 1) It was a first degree.
- 2) It was the first professional degree in engineering allowing for practice as an engineer.
- 3) It was only slightly longer than the US bachelor's degree in engineering which varies depending on the institution and the major between 128 and 135 semester hours (at or slightly below 4.5 years).

In 2012 AACRAO was approached by CampusFrance, the office within the French Foreign Ministry that promotes French higher education (comparable to EducationUSA in the US State Department) to participate in a workshop that would examine French engineering, with the goal of potentially amending the EDGE Credential Advice for the *Diplôme d'Ingénieur* to that of a US master's degree. AACRAO enlisted a group of eight experts on international education, including Mike Reilly who had recently become the new AACRAO Executive Director. The Workshop, entitled "Bridging French and American Higher Education Systems," convened on the campus of the *Institut d'Études Politiques de Paris* (commonly referred to as *Sciences Po*) in Paris. The two-day workshop included presentations by both the American delegation and the French group as well as school site visits. Significant information was provided by the French hosts outlining the details of engineering education, both CPs and *grandes écoles Diplôme* studies. At the conclusion, the US group then discussed the information and came to a consensus that the *Diplôme d'Ingénieur* was indeed comparable to a (short) US master's degree. The reasoning points were:

While the *Dip Ing* was a first degree, it is only technically one, given the preceding two years of CPs (though those do not lead to a degree as such).

The *Dip Ing* is ALWAYS awarded after five years and 300 ECTS (in order to receive CTI accreditation this milestone MUST be met).

The degree bears the same status as the *Master* of the L-M-D university degree sequence, and the Bologna-compliant *Master* in France is considered comparable to a US master's degree in EDGE France.

It should be noted that during the meetings in Paris, French colleagues' disagreement was also expressed regarding the credential advice in EDGE regarding the *Licence*, the first three-year university degree, which is not given US bachelor's comparability. In

addition, some concern over the EDGE conversion of French grades was indicated by French educators as well. The French grade on a 20-point scale where 10 is the lowest passing grade. Grades 1-9 are failing grades, although grades of 8 and 9 are allowed to stand without repeat, provided the overall grade for the year on all courses is 10 or better. This practice renders the 8 and 9 grade a de facto US grade of D which is the opinion stated in EDGE. French engineering colleagues preferred to assign a value of a US grade of C to the grades of 9, given the extreme severity of the grading in the engineering *grandes écoles*. They conceded that the EDGE interpretation of grades was correct for universities in France but not for the very rigorous engineering schools.

The group did not see a need to change the advice for the *Licence* which currently indicates three years of credit but not a US bachelor's, though clear language and links to the Bologna entry in EDGE which discusses at length the acceptability of three-year Bologna-compliant degrees to US graduate programs should handle this problem. Finally, all stood firm on the grade scale conversions though perhaps some language pointing out to EDGE users the extreme severity of grading in the engineering *grandes écoles* might be in order.

Upon returning to the US, those members of the American Delegation involved with EDGE presented the group's findings to the AACRAO International Education Standards Council/IESC and that group voted unanimously to change the advice in EDGE France to reflect the new outcome. This was then communicated to various stakeholders in many forms (AACRAO Annual Meeting sessions, face-to-face meetings with USCIS adjudicators who rely heavily on EDGE, and at AACRAO Summer and Winter Institute Workshops). While the decision affected the advice in EDGE for the engineering *grandes écoles*, it did not extend to the business *grandes écoles*. That problem had to await future research.

Within the past decade, one must also note that another degree has emerged to compete with the shorter three-year *Licence* awarded by universities – the three-year bachelor's degree in *sciences et ingénierie* (science and engineering). Students enter this program at engineering *grandes écoles* directly after the *Baccalauréat*. Upon successful completion, they earn a bachelor's degree along with the designation of *grade de Licence*. Since 2021, this designation has been automatic for 3-year bachelor's degrees from engineering *grandes écoles* accredited by CTI. Holders of this credential are able to work in the engineering, science, and technology fields but typically perform less complex tasks and responsibilities compared to holders of the five-year *Diplôme d'Ingénieur*.

### ***Grandes Écoles: Écoles de Commerce et de Gestion (Business and Management Schools)***

As a follow-up to the workshop on *grandes écoles* in engineering, AACRAO also arranged a subsequent series of meetings with the educational authorities in France to explore *grandes écoles* in business. The visits took place in April of 2018. Present were Melanie Gottlieb, then Deputy Director of AACRAO, along with a number of members of IESC,

the International Education Standards Council. Representing the French were individuals from the *Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation* (Ministry of Higher Education, Research and Innovation) (MESRI), the *Conférence des Présidents d'Université* (Conference of University Presidents) (CPU), and the *Conférence des Directeurs des Ecoles Françaises d'Ingénieurs* (Conference of Deans of French Schools of Engineering) (CDEFI). ESSEC, or *École Supérieure Sciences Économiques et Commerciales*, a leading *grande école* in France, also hosted a session on their campus. The collective discussions proved to be illuminating and productive.

While the term *grande école* is often associated with educating the elite and study that is particularly rigorous, it was pointed out that the term is unprotected. As such, the label does not represent the same level of quality among all *grandes écoles*. Most business schools are private and are often created by local chambers of commerce to address the industry in their respective regions. Regardless of whether the school is public or private, only those programs that meet a certain standard are recognized and can lead to a *diplôme visé* (“sealed diploma”). The five-year programs in business result in the award of a *Diplôme de [name of grande école]*. And the *diplôme visé* label, found on the degree certificate, is the indication of recognition. Those that undergo an additional approval process may also have the designation of *grade de Master*. So, unlike the *Diplôme d'Ingénieur*, the *grade de Master* designation is not automatic for the 5-year *diplômes* coming out of the business *grandes écoles*.

Nevertheless, the *Diplôme de [name of Grande École]* is always five years in length and 300 ECTS credits. This sequence is also referred to as *Baccalauréat + 5* or *Bac + 5*. The most common route is two years of *classes préparatoires aux grandes écoles* (CPs or CPGEs), or *classes prépas* (preparatory classes), followed by three years at the *grand école*. However, there is also the less common pathway, whereby students complete a 5-year *Diplôme de [name of Grande École]* directly after the *Baccalauréat* at the *grande école*. The CPs for business schools also have tracks with specific areas of focus. The two-year CP studies, leading to 120 ECTS credits, concentrate on economics and commerce; however, they fall into the scientific/mathematics, economic, or technological tracks. The post-CP period, which is three years in length and covers 180 ECTS credits, is internally described as comprising a one-year pre-*Master* and a two-year *Master*. Based on the work previously conducted on the engineering *grandes écoles*, and the new research and information obtained, the decision was made to create an entry in EDGE showing comparability to a US master's degree as well for the five-year *diplômes* from business *grandes écoles* that have recognition.

In addition to these five-year degrees, business *grandes écoles* may also award a variety of qualifications, such as school-specific diplomas often established to help generate revenue and help address local industry needs. While some may be well regarded for employment purposes, they are not national diplomas. As a result, they are not recognized by the *Ministère de l'Enseignement Supérieur, de la Recherche et de l'Innovation* (Ministry of Higher Education, Research and Innovation) (MESRI), unless

they bear the label of *diplôme visé* and/or *grade de Master*.

Similar to their engineering counterparts, there is also a proliferation of three- and four-year degrees among business *grandes écoles*, frequently referred to as bachelor's degrees. For recognition, they must also be a *diplôme visé*. Those that undergo an additional approval process may also have the designation of *grade de Licence*. Applications for a *diplôme visé* are handled by the CEFDG, or the *Commission d'Evaluation des Formations et Diplômes de Gestion* (Commission for the Evaluation of Training and Diplomas in Management), on behalf of the MESRI. The MESRI, in consultation with the *Conseil National de l'Enseignement Supérieur et de la Recherche* or CNERES (National Council of Higher Education and Research), bestows such recognition. A similar, but separate process is conducted for approval for the designations of *grade de Licence* and *grade de Master*. While the possibility of granting the *grade de Licence* only began in 2021, the possibility of the *grade de Master* began as early as 2003 for business *grandes écoles*.

### **Grade de Master and Other Master's Degrees**

Over the years, qualifications similar to the *Master*, whether in name and/or level, have found their way into the French educational system. Below is a summary of such terms.

**Maîtrise:** A pre-Bologna qualification, awarded by universities upon completion of 1 year of study after the *Licence*. Bac + 4.

**Magistère:** A qualification awarded by universities as the counterpart to the *Diplôme de* [name of *Grande École*] or the *Diplôme d'Ingénieur*. Awarded upon completion of 3 years of study, following the *Diplôme d'Études Universitaires Générales* (Diploma of General University Studies) (DEUG) or 2 years of the *Licence*. Intended to attract bright students who would normally seek admission to *grandes écoles*. After 2005, *Magistères* are not under the oversight of the MESRI. Bac + 5.

**Mastaire:** A term created in 1999 to represent the Bologna compliant second-cycle qualification or Bac + 5. Qualifications such as the *Diplôme de* [name of *Grande École*], the *Diplôme d'Études Approfondies* (Diploma of Advanced Studies) (DEA) and the *Diplôme d'Études Supérieures Spécialisées* (Diploma of Specialized Studies) (DESS) were eventually retired. The term *Mastaire* was replaced by *Master* in 2002.

**Master of Business Administration:** A second-cycle qualification awarded by *grandes écoles*. These are university-specific qualifications that are not under the oversight of the MESRI.

**Master of Science:** A second-cycle qualification awarded by *grandes écoles*. These are university-specific qualifications that are not under the oversight of the

MESRI.

*Master:* Introduced in 2002 to refer to the Bologna compliant second-cycle qualification that typically follows the *Licence*. The first year of the two-year program is often referred to as M1 and the second year as M2. With approval, the *grade de Master* designation may also be awarded alongside other Bac + 5 qualifications as a further mark of recognition.

*Mastère Spécialisé:* A 12-month qualification awarded by *grandes écoles*, following the *Diplôme d'Ingénieur* or the *Diplôme de* [name of *Grande École*]. These programs are not under the oversight of the MESRI. Bac + 6.

*Grandes Écoles* showcase the richness and complexity of French higher education. Many are noted for training the elite in France and their five-year degrees warrant treatment as being comparable to master's degrees in the US. However, the quality of these institutions and their programs are also shown to vary greatly. Careful attention must be paid to their recognition and accreditation statuses. The additional designations of *grade de Licence* and *grade de Master*, when granted, help draw attention to the ranks of these qualifications among university degrees.