

Introduction

The French higher education system consists broadly of four groups of institutions (HEIs).

Universities

The first group is made up of the universities. The universities have a scientific, cultural and professional character. In addition to the departments (which are the core elements of the university) other institutes can attach themselves to the university. There are three types of such attached teaching institutes: the *instituts universitaires de technologie* (IUT; created in 1966, they offer short professional courses), the *instituts universitaires de formation des maîtres* (IUFM; created in 1989, they provide teacher training), and the *instituts universitaires professionnalisés* (IUP; created in 1991, offering specialised professional courses in close co-operation with industry).

Grandes écoles

The institutes for higher learning, better known as *Grandes Écoles*, are the second group of HEIs. The public *Grandes Écoles* comprise a diverse set of institutions. These comprise the *Grandes Écoles scientifiques* (like the *l'école centrale des Arts et Manufactures*, *l'école centrale de Lyon*, *l'école nationale supérieure des Arts et Industries textiles*, *l'école nationale supérieure d'Arts et Métiers*, etc.), the *four écoles normales supérieures* (ENS), fourteen *grands établissements* (including institutions for social science and physics), public engineering schools, military schools, the national administration school, agricultural schools, veterinary schools, art schools, and architecture institutes. All of these institutions are perceived to provide high standard teaching and training. The private *Grandes Écoles* are engineering schools, institutions on business and commerce, and catholic institutions, recognised by the minister.

Secondary level institutions

The third group of HEIs is formed by the classes at secondary level institutions (*Lycées*). Two types of programmes are offered that are considered to be higher education programmes. These special classes are the *Sections de Technicien Supérieur* (STS) and the *Classes Préparatoires aux Grandes Écoles* (CPGE).

The STS are professionally oriented classes located at the *Lycées*, providing two year courses. There are two main categories of courses: courses in the secondary sector (industry related) and the courses in the tertiary sector (service and business related).

The CPGE provide the preparatory training that is required to participate in the entrance competition for the *Grandes Écoles*. There are three types of CPGE:

- 1) *les classes préparatoires économiques et commerciales*, preparing for the schools for commerce and business and the ENS.

- 2) *les classes préparatoires littéraires*, that prepare for the ENS, the schools for commerce and business and the instituts d'études politiques;
- 3) *les classes préparatoires scientifiques*, that prepare for the engineering schools, the ENS and the veterinary schools.

Other schools and institutions

The fourth group of HEIs is formed by a number of schools for paramedical and social professions and a number of other schools, all professionally oriented.

Input

The following table (table 10.1) gives an overview of student numbers in the respective types of higher education institutions.

Table 10.1: Student numbers by type of institution (1995-1998)

	1995	1996	1997	1998
Universities*	1338,328	1315,892	1285,181	1262,631
IUT	102,953	108,398	112,641	114,302
STS	225,233	230,346	233,139	234,300
CPGE	76,030	78,343	78,764	77,084
Ecoles d'ingénieurs	75,640	76,841	79,098	82,954
other GE	134,902	126,299	127,110	134,342
IUFM	84,245	83,935	81,305	79,811
Paramedical and social schools	85,572	85,345	83,112	82,747
Other	15,843	18,347	19,793	18,714
Total	2138,746	2123,746	2100,143	2086,885
	1995	1996	1997	1998
Universities	62.6%	62.0%	61.2%	60.5%
IUT	4.8%	5.1%	5.4%	5.5%
STS	10.5%	10.8%	11.1%	11.2%
CPGE	3.6%	3.7%	3.8%	3.7%
Ecoles d'ingénieurs	3.5%	3.6%	3.8%	4.0%
other GE	6.3%	5.9%	6.1%	6.4%
IUFM	3.9%	4.0%	3.9%	3.8%
Paramedical and social schools	4.0%	4.0%	4.0%	4.0%
Other	0.7%	0.9%	0.9%	0.9%

Source: Repères et références statistiques, Édition 1999

*The (relatively small) number of students enrolled in IUP are included in the university enrolments

Every French school-leaver holding a *baccalauréat* has, in principle, access to the DEUG programmes of the universities. Access can also be granted to holders of a special certificate (the *diplôme d'accès aux études universitaires*, DAEU). This diploma was created in 1994 and is awarded after completion of a one-year programme.

Once a student has completed one or two years of the DEUG-programme (s)he may continue in other, specific programmes like the MST, MSG and MIAGE, or the programmes offered by the IUP. Access to those programmes is, however, very selective.

Access to two types of institutes attached to the universities, i.e. the IUT, and the IUFM, is selective, based on selection on a variety of achievements and an interview with the candidates.

The access to the *Grandes Écoles* is highly competitive. Selection is based on a high-level entrance exam (*concours*). Most students prepare for that exam at the CPGE.

In France, all students, except those receiving a study grant, have to pay a small registration fee. The amount to pay depends on the type of programme and the type of institution one is enrolled in. The Ministry of Education determines the level of the fees charged at public higher education institutions. At private HEIs the tuition fees are set by the institutions.

Students at public HEIs and private state-recognised HEIs are eligible for student support. In addition to the direct student support, French families with studying children benefit from child allowances and tax deductions. Parents are financially responsible for their children until the age of 18. In addition, parents can benefit from child allowances and tax reductions if their children are under the age of 26 and are following (higher) education.

Structural characteristics

Types of programmes

In the descriptions of the French higher education system a frequently used distinction is the distinction between short and long programmes. The duration of the programme is determined by the number of years a new *Baccalauréat* holder formally needs to obtain a degree that enables him or her to enter the labour market.

The short programmes comprise:

- the two-year programmes at the STS leading to the *Brevet de Technicien Supérieur* (BTS),
- the two-year programmes at the IUT leading to the *Diplôme Universitaire de Technologie* (DUT),
- the one-year programme offered at IUT's and STS leading to the *Diplôme national de technologie spécialisée* (DNST). This programme follows on the two-year course of IUT or STS and is provided in alternation by the school and industry.
- the two-year programmes offered at the CPGE (no formal degree is delivered),
- the two-year professional programmes at the first cycle of universities leading to the *Diplôme d'études universitaires en sciences et techniques* (DEUST)

Long programmes are provided by universities, *Grandes Écoles* and other schools. Since most of the French qualification structure can be characterised as sequential, most long programmes consist of a number of short building blocks.

The basic building block at universities is the DEUG (bacc+2). This diploma, awarded upon completion of the first two years (first cycle) is not considered as a degree that qualifies one for entry to the labour market. The first degrees that are considered to be final qualifications are the second cycle programmes *Licence* (bacc+3) and the *Maîtrise* (bacc+4). In addition, there is a one-year programme leading to the *Licence professionnelle*. Access to this new programme, created in 1999, is open to bacc+2 degree holders (DEUG, DEUST, DUT, BTS) and for people with certified work-experience. This professional degree is conceived and organised in close co-operation with professional organisations in order to ensure a good position on the labour market. The second cycle is also comprised of a number of professional two-year *Maîtrise* programmes building on the DEUG: the MST, MSG, and the MIAGE.

The third cycle comprises a one-year specialisation course (DESS; bacc+5), a one year preparatory course for the doctoral programmes (DEA; bacc+5), the doctorate programme and a one year research training course for graduates on the engineering schools and the IUP (DRT).

The new *Mastaire* degree (created in 1999) is available for students who hold a higher education degree on a bacc+5 level.

Teacher training programmes at the IUFM take one or two years, starting from a *licence* degree. The IUPs offer three-year programmes for those students who have successfully completed at least one year of higher education.

The programmes *Grandes Écoles* provide differ in length, depending on the type of programme and the way the preparatory path is organised.⁸

There is one formal intermediate qualification: the *licence* (3 year, or bacc+3). It is a second cycle university diploma. With a *licence* students can enter the labour market or they can go on with the *maîtrise* (bacc+4). About two thirds of *licence* graduates continue their study and obtain a *maîtrise* degree (Paul and Murdoch, 1998).

The short-cycle programmes provided by IUT and STS are designed to lead to final qualifications: graduates are supposed to enter the labour market. However, a significant number of graduates follow a different path. A growing part of the graduates of IUT continued their study either in the second or first cycle of university programmes, or at *Grandes Écoles* or other educational institutions (1980: 25%; 1984: 38%; 1988: 51%; 1992: 46%; 1996: 67%) (Cahuzac and Plassard, 1997). Among the graduates of STS a similar tendency can be seen: more and more graduates continue their study in order to secure a competitive position on the labour market (1980: 16%; 1984: 25%; 1988: 30%; 1996: 39%) (Goedegebuure *et al.*, 1995, p. 7-12; Cahuzac and Plassard, 1997).

⁸ Some *Grandes écoles* have integrated the two-year preparatory programmes into their main programme.

Academic versus professional programmes

It is impossible to make a clear institutional divide between a purely academic sector and a purely professional sector in the French higher education system. This is due to the fact that universities, which provide most of the academic programmes, offer a growing number of professionally oriented programmes as well. At all three cycles of the university programmes, special programmes were created to train the professionals demanded by the labour market.

The breadth of the educational programmes differs between the various types of programmes offered. The general programmes offered at universities have the broadest scope, whereas the specific university programmes and the programmes at the other higher education institutions are much more narrowly focused. Universities are still the only institutions that have the right to award a doctorate.

Co-operation between sectors

In theory there are numerous opportunities for interaction between the sectors. For access to most of the selective programmes there is an open competition. As mentioned before, there are a substantial number of STS and IUT graduates who continue their study at the universities. These same degree holders may also compete for access to the programmes at the *Grandes Écoles* (as may the DEUG and *Licence* holders of the universities). However, the chances for these 'migrants' to succeed in entering the *Grandes Écoles* are rather slim.

Other structural characteristics

Finance

For the majority of French public higher education institutions, the S.AN.RE.MO model is used to allocate staff and financial resources to the institutions. In 1999, the allocation model was applied to 228 institutions (81 universities, 7 *Instituts d'Études Politiques*, 102 IUT and 28 engineering schools). The base for calculating the resources is the number of students enrolled. All programmes are categorised in a grid that serves as a weighting device. The level and type of programme determines the weight. In order to determine the number of staff an institution is theoretically entitled to, enrolment is weighted according to that grid. This means there is no difference between the types of public higher education institutions regarding the funding mechanism. The STS and CPGE are funded according to the secondary education mechanisms.

Personnel

Permanent or tenured teaching staff comprises two types of personnel: teachers with higher education status and teachers with secondary education status. The teachers with higher education status (*enseignants-chercheurs*) comprise professors (*professeurs des universités*) and lecturers (*maîtres de conférences*). Secondary education teachers were first recruited when IUTs were created in 1966. From 1986 their number grew steadily. There are two types of secondary teachers: *professeurs agrégés* and *professeurs certifiés*.

In addition to the tenured teaching staff, there is a range of types of full-time and part-time staff on contract:

- Associate or visiting staff (*personnel associé ou invité*). Universities are allowed to use vacant positions to recruit full time associate professors or lecturers on three-year contracts. Visiting professors usually are foreign academics invited for a few months by universities. Associate and visiting staff have the same duties and rights as tenured staff.
- Temporary assistants (*Attaché temporaire d'enseignement et de recherche, ATER*). They are recruited among advanced students who are close to the completion of their PhD or just have completed it. The contract is for one year and can be renewed twice and sometimes for a fourth year. They can be appointed to fill temporarily vacant positions of tenured staff.
- Instructors (*Moniteur*). They are recruited by the university among graduate students awarded a research grant to give a small amount of teaching (60 hours per year) to first- and second-year students.
- Foreign language assistants.
- University hospital staff (medical staff).
- Part-time staff employed on an hourly basis (*Chargés d'enseignement vacataires and agents temporaires vacataires*). *Chargés* ought to have a full-time employment outside university; *agents* are graduate students. This category of staff accounts for a substantial share of teaching. Institutions get part of their recurrent funding to hire part time staff when permanent staff allocated to them does not cover the whole of their teaching needs. In newly created or fast growing institutions the use of these *vacataires* is very high.

Figure 10.1: Academic staff by rank and type of institution, 1997-1998

	university	IUT	ENSI	other	total
Professeur	27%	10%	34%	13%	23%
Maître de conférence	40%	43%	47%	29%	39%
Assistant	2%	4%	1%		2%
Medical staff	6%				5%
ATER & Moniteur	14%				13%
Other	10%	43%	18%	58%	17%

Source: Note d'Information

Note: The category 'other' comprises the secondary education teachers. This category is extreme large in IUT and 'other', which is dominated by IUFM

Research

In the past decades, engineering schools have paid little attention to research (and its role in the development of curricula) and international relations. The French government views this situation as problematic. There is an effort to bring engineering schools and universities closer together. In the development of the new *Mastaire* this idea has been discussed. In addition, there are currently a limited number of experiments in which universities and engineering schools co-operate in a new organisational structure: *Centres Polytechniques Universitaires* (MENRT, 1999a, 1999b).

Research institutes outside the HEIs mentioned above perform most part of the R&D. The remainder of the R&D effort is almost completely located at the universities and engineering schools related to universities. The role of the other HEIs in R&D is relatively small. The limited role of R&D in *Grandes Écoles* is seen as a threat to the quality of these institutions.

The strong growth of enrolment in higher education in the late 1980s and early 1990s was the main reason for the Minister of Education to launch the plan U2000 in 1990. The goal of this plan was to invest in the higher education infrastructure and to accommodate the wave of new students. Although U2000 is generally considered to be a success, there are two omissions in the plan: the limited attention paid to research and the lack of measures focused on the situation in the Paris region. In the new action programme (U3M), budgets are allocated to enhance the research function at new universities and to base the allocation of research funds more on local and regional needs.

Quality assurance

The national agency responsible for quality assurance (the CNE) uses the same procedures for all public Higher Education Institutions when examining the quality of teaching at the institution.

Output

Unemployment among graduates is relatively high and is subject to strong fluctuations. Three years after graduation, unemployment among DUT and BTS holders is significantly lower than among *Licence* and *Maîtrise* holders. Unemployment is lowest among graduates with a third cycle diploma (tables 10.2 and 10.3).

The unemployment situation through time shows a particular pattern. The number of unemployed is relatively high after one year, after which it decreases over time. The pattern for DEUG, DUT, and BTS-holders shows a high level of unemployment after one and two years. Around 75% of the graduates with a known destination have a job or have continued their study (*Bilan-formation-emploi*, except for holders of paramedical or social degrees who have a very high employment rate). The level of the jobs differs according to the level of the degree.⁹

⁹ In *Le Monde de L'Éducation*, no 271 a dossier is devoted to the changes in the value of diplomas. This dossier still has to be evaluated.

Table 10.2: Unemployment rate three/five years after graduation by type of degree

	After 5 years	After 3 years				
	1996	1987	1991	1994	1997	1999
DUT/BTS	10.0%	5.7%	4.6%	13.5%	9.1%	11%
Paramedical	2.1%					
DEUG	10.5%					
Licence/Maîtrise	8.3%	5.4%	6.1%	11.8%	12.2%	13%
DEA/DESS/Doctorat	7.1%	6.1%	5.7%	10.2%	9.7%	8%
IUP						6%
Grandes Écoles	5.0%	3.0%	2.5%	7.9%	5.8%	3%
Total higher education	7.8%					10%
Overall	15.9%					

Source: Note d'information 97.09 (after 5 years), Bref nr. 134 and 156 (after 3 years)

Table 10.3: Level of unemployment by level of educational attainment

	1993	1994	1995	1996	1997	1998	1999	2000
Bacc	10.0%	11%	10%	10.4%	11.4%	11.0%	10.7%	8.9%
Bacc+2	7%	8%	7%	7.5%	8.2%	7.5%	7.1%	5.3%
2 nd & 3 rd cycle	6%	6%	7%	7.4%	7.3%	6.8%	6.3%	5.7%
Overall	11%	12%	12%	12.1%	12.3%	11.8%	11.8%	10.0%

Source: INSEE première

Developments

Historical background

Grandes écoles were created in the 18th century to train and educate officers and engineers to high standards for civil service. In the 19th century, the number of *Grandes Écoles* grew and diversified into the fields of industry and commerce. Except at the *Ecole normale supérieure*, a strict separation between science and the arts was observed.

The universities of the *Ancient Régime* were abolished by the French revolution. In 1808, Napoleon did not restore them but created under the name of *université* a system for educating teachers. Only since 1885 have universities been created as places for giving specific teaching to students. Classes were defined according to what teaching diplomas were taught. However, the new type of university, created in 1896 was not a real university. These 15 universities were collections of five faculties (the same in all universities) with a university council with no power and a president appointed by the central government. These universities struggled with their role in higher education. The *Grandes écoles* already provided the training of the elites in a efficient and prestigious way. Universities were not only in competition with these institutions but also with the already existing renowned research institutes. This 'struggle' continued throughout the years and intensified in the 1960s when

the massification of higher education started. The need to reform the higher educational system was re-formulated by the student movement of 1968 and resulted in Edgar Faure's framework law of 1968, which remains the basis of university organisation today.

After World War II the development of short technical and professional courses started. In the 1950s the STS were created as special classes at the *Lycées*. In 1966, the IUTs were created as institutes attached to the universities.

The various professional programmes at universities and attached institutes are relatively new: the IUT in 1966, the DEUST, MST, MIAGE and MSG in the mid 1970s, the Magisère in the 1980s, the IUFM in 1989, the IUP in 1991, and the *Licence professionnelle* and the *Mastaire* in 1999.

Recent developments

Bologna declaration

As co-signer of the Declaration of the Sorbonne and the Bologna declaration, France has expressed a clear interest in the construction of a European dimension in higher education. The French higher education system is already a diversified system in which degrees may be obtained after three (the *Licence* and some extended programmes at IUT and STS) and five years of education (the DESS, DEA, degrees at the IUFM, certain *Grandes Écoles*, and at the IUP). However, to create the transparency that is so crucial for the European dimension, two new degrees have been created, specially geared to the needs of international study.

The *Licence professionnelle*, the first new degree, is a one-year programme. Access to this programme is open to bacc+2 degree holders (DEUG, DEUST, DUT, BTS) and for people with certified work-experience. This professional degree is conceived and organised in close co-operation with professional organisations in order to ensure a good position on the labour market. The programme comprises a 12 to 16 week period of practical work and its curriculum should incorporate innovative pedagogical methods and students responsibilities. This national degree may also be used to substitute local degrees at the bacc+3 level that were developed to enhance the entrance to the labour market of DUT holders.

The *Mastaire* 'regroups' existing programmes leading to the level bacc+5. It is not a new programme as such. The title *Mastaire* may be awarded to degree-holders of DESS, DEA and engineering-school programmes. *Mastaire*-programmes should comprise a period abroad for study or practical work. The *Mastaire* is offered not only at universities but also in the *Grandes Écoles* under the authority of the Ministry of Education. The latter is quite unique and opens up opportunities for co-operation between these two types of institutions.

The *Mastaire* and the *Licence Professionnelle* programmes will receive their first students in the year 2000.

The Minister of Education plans to double enrolment in DESS before 2004 and to introduce professional elements in the DEA. In addition, he has accepted the demands of the student unions to loosen the very severe selection for the *Mastaire* programmes. These plans will lead to a *Mastaire* that is a substan-

tial part of the system and is truly comparable to of European Master's degrees (Le Monde, 22 June 1999).

In contrast to most of the other programmes, engineering programmes are not subject to a central curriculum or *maquette*. The *commission des titres d'ingénieur* is the '*gardien de la doctrine*'. Because of this, a large variety of engineering programmes have developed, offered at a large number of relatively small institutions. There are substantial differences in status between these institutions. In addition to the problems of transparency and efficiency that this situation has lead to, the engineering schools have paid to little attention to research (and its role in the development of curricula) and international relations.

There are a number of efforts to solve the problems mentioned above. The major stream in these efforts is to bring engineering schools and universities closer together. In the development of the new *Mastaire* this idea has been discussed. In addition, there are currently a limited number of experiments in which universities and engineering schools co-operate in a new organisational structure: *Centres Polytechniques Universitaires* (MENRT, 1999, 1999b).

Conclusion

The French higher education system is a complicated system and therefore difficult to characterise in binary terms. The traditional divide between the universities on the one hand, and the *Grandes Écoles* on the other, is blurred by the expansion of the short courses located at *Lycées* or at universities, the rise of specialised, professional programmes at universities, and the pressures on *Grandes Écoles* to respond more to the needs of society. However, such diversity cannot be found in regulations regarding staffing and funding. The latter is partly due to the centralised government that used to steer higher education.