2023

Cti

Commission des titres d'ingénieur

References and guidelines (R&O)

MAJOR ACCREDITATION CRITERIA

2023 version
approved at the plenary meeting of 14 February 2023

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For your information:
CTI documents are not justified to make them easier to read for dyslexic people.

INTRODUCTORY GUIDE

1 Introduction to the Major Accreditation Criteria

This reference framework (R&O) is the basis for any evaluation process carried out by the CTI for the accreditation of engineering schools and engineering degree programmes at master's level. It is structured into 7 chapters which detail the criteria by field:

A. The school and its governance
B. School management: steering, management and quality system
C. External links and partnerships
D. The curriculum of engineering degrees at master's level
E. Student selection and admission
F. Student life and student community life
G. Professional integration

All the procedures concerning evaluation process are detailed in the specific booklet "Accreditation process for French engineering schools".

The rewriting of these standards & criteria has made it possible to simplify them, in particular to avoid redundant developments. The self-evaluation report provided by the school is supplemented by evidence that is essential for the expert panel to carry out the evaluation processes. Consideration has also been given to simplifying its presentation: a digital file containing these elements is described below (§3).

2. Structure of the training programmes

The courses leading to the engineering degree are made up of courses in the basic sciences, engineering (which may be oriented towards the specific field of the degree), the humanities, economics, law and social sciences and languages. For schools awarding several degrees, the programmes are structured into a common core curriculum and a specialization in each degree. Optional courses may be added to broaden the range of skills. The development of these optional courses is analysed at each evaluation process.

For an initial application or a renewal of an accreditation, the school completes tables, the model for which is provided by the CTI, to describe the structure and content of each course.

The official name of the specialization, if it exists, must be created out of one or two titles taken from the official list as defined each year by the CTI. The document is on line on the CTI website: délibération sur la nomenclature des intitulés des spécialités. This bilingual list (French-English) is designed to avoid excessive dispersion of the titles of specializations that would affect their readability, as well as a too restrictive names which would be harmful to the career development of the degree holders.

3. Digital file maintained by the school

In order to facilitate the monitoring of the data essential for the CTI evaluation processes, each school is asked to set up an internal digital portal where essential documents and data are stored and updated annually. These documents, which have been identified as important evidence for each evaluation process, will thus be made available to the expert panel and will help to avoid the lack of consistency sometimes observed between the content of the self-assessment report and the various pieces of evidence provided. They will also contribute to the school's internal quality approach.

The school's self-evaluation report will be based entirely on these documents and will include an analysis of them.

At the time of an evaluation process, the CTI registry will extract the evidence contained in the digital file in order to archive these documents on the date of the process.

4 Certified school data supplemented by specific data for the evaluation processes

As part of an evaluation process, the CTI would like to have data on the school and its engineering programmes. To this end, an extraction of the certified data (datasheets) containing the entries for the last few years is produced and made available to the expert panel and to the school.

5 The essential elements of any engineering programme and the certified competences, which define accreditation

All the elements listed in the preceding paragraphs serve as a generic basis for defining the accreditation associated with the relevant programme. By contextualising these elements and linking them to the specific features of the relevant programme, the certified skills that characterise the graduate engineer from the programme can be defined. They can serve as a basis for the structure of the competence approach of the specialization and for the constitution of the blocks of competencies structuring the RNCP file (National Directory of Professional Certifications), and also the possibilities of acquiring certification in a lifelong learning process.

The essential CTI elements of any engineering degree programme, as well as the level indicators, are listed in chapter D2 below and in the RNCP thematic sheet on the CTI website.

6 The engineering school's self-evaluation report

Engineering schools are expected to draw up a self-evaluation report for any initial application or renewal of accreditation, following the structure of these Major Accreditation Criteria. The report should be concise, focusing on the compliance with the criteria, and should not exceed 60 pages. The report must include a signed form specifying the scope of the evaluation process. For the technical submission of the file to the CTI registry, the text must not exceed 49 MB.

Everything relating to the curriculum is contained in part D. Each degree must be analysed according to the major criteria. It is left to the school's discretion to group together the analyses common to all the degrees.

Each chapter of the self-evaluation report ends with a SWOT analysis. In the final conclusion, the school draws up an overall SWOT analysis.

The useful evidence is listed at the end of each of the 7 chapters of these guidelines; some are indicated as mandatory (in orange in the left-hand column).

All the evidence is collected and filed in the school's digital folder and made accessible to the expert panel. The school's digital folder replaces the appendices to the school's self-evaluation report.

Where a document exists in the form of evidence in the digital folder, the school's self-evaluation report should only contain a highly summarised mention of the covered issue.

The following abbreviations are used in these guidelines:

- **DN** (dossier numérique): Digital Folder
- **DS**: Datasheets (automatically filled in from the annual certified data)
- **Tableaux**: Tables, information to be completed by the school in EXCEL spreadsheet format
- **RAE** (rapport d'auto-évaluation): school's self-evaluation report

A. THE SCHOOL AND ITS GOVERNANCE

The engineering school's main mission is to train engineers, and its strategy, objectives, organisation and resources are in line with this mission.

A.1 Identity and autonomy

The engineering school has an effective identity and an identifiable and visible geographical location. It defines its teaching and educational objectives, its organisation and what constitutes the specific identity of its graduates. The school has a genuine statutory autonomy or a clear framework for delegation, reflected in an agreement, so that it has the material and human resources necessary to carry out its missions (teaching, pedagogy and organisation) on a permanent basis.

Evidence:

	School's statutes	DN link
	Contract of objectives with the supervisory ministry (COP or COM) for public-owned schools and private schools with the not-for-profit label EESPIG	DN link

A.2 Strategy

A strategic guidance document has been drawn up by the school's management and approved by its governing bodies. If the school is part of an institution, this policy document is consistent with the institution's strategy.

In particular, it defines the school's major orientations in terms of positioning in its environment, site policy, training, research and innovation policy, scientific integrity, partnership policy at national and international level, societal and environmental responsibility, entrepreneurship and digital strategy.

Evidence:

	Strategic note approved by the school's governing bodies (Administrative Board, School Council, etc.)	DN link
	Where appropriate, notes on specific approved policies, in particular on research, communication, etc.	DN link

A.2.1 Societal and environmental responsibility

The school has developed a strategy for societal and environmental responsibility that permeates its organisation, its operations and each of its missions. This strategy is broken down into objectives that are monitored.

In terms of societal responsibility, the school ensures diversity and a balance of profiles within its governing bodies, management, teaching staff and students, diversity of geographical and social origins among students, inclusion of all groups and in particular people with disabilities, quality of life at work, safety at work, the fight against discrimination and violence of all kinds. The school is involved in national initiatives to combat gender-based and sexual violence.

It ensures compliance with requirements in terms of scientific integrity, deontology and ethics.

It runs awareness-raising campaigns on these subjects for its students.

In terms of environmental responsibility, the school aims to control the environmental impact of its activities: operations, campus, research, digitalization, purchasing, student life, internationalization, etc., and in particular to reduce its water and energy consumption, with a view to decarbonisation. It has set up a system for assessing the environmental footprint of its activities and structure, and an associated progress plan. The school enables its students to acquire the skills needed to support the ecological and energy transitions by favouring a systemic approach, and it monitors the development of professions linked to these major challenges facing society.

The school trains all its staff in CSR issues, starting with the management team.

Evidence:

	Societal and environmental responsibility policy, including HR, gender equality, disability, anti-discrimination, environmental footprint, etc.	DN link

A.2.2 Site policy

The schools, in their capacity as players in education, research and innovation, participate in the deployment of the site policy aimed at creating centres with regional, national and international visibility. They play an active role in developing the site's strategy, the aim of which is to encourage closer links between universities, schools and research bodies, while respecting the individual identities of each.

Evidence:

	Participation in a site policy (within the meaning of the Order no. 2018-1131 of 12th December 2018 on the experimentation of new forms of alliance, grouping or merger of higher education and research institutions provided for by the Law of 22nd July 2013, various agreements and partnerships between higher education institutions on the site) or evidence of joint actions	DN link

A.2.3 Communication

The school develops a communication policy linked to its educational project and its regional, national and international positioning.

The school uses non-discriminatory, non-stereotypical communication tools and is attentive to the digital accessibility of materials.

External communication is organised, consistent with the school's strategy and helps to improve the school's reputation and attractiveness. It meets the highest standards of integrity and transparency.

Internal communication aims to inform staff and learners and to develop their motivation and sense of belonging.

The school ensures the public dissemination of objective and up-to-date qualitative and quantitative information about the school and/or institution, the recruitment conditions, objectives, programmes, costs and possible financing of each programme, the targeted skills, the learning outcomes and the methods used to evaluate the results of the programmes and qualifications it offers. For each of its programmes, the school publishes the results of the professional integration of its graduates.

It guarantees the accuracy of the information provided and published, and in particular the annual data, certified by the school's management at the request of the CTI.

The school contributes to the dissemination of scientific and technical knowledge to industry and society; it helps to disseminate information about engineering careers and the programmes leading to the degree.

Evidence:

	Website (in French and English)	Link sites
	Intranet / work platform	Link sites
	Social networks	Link sites
	Student welcome booklet	DN link

A.3 Governance

The school has a strong governance structure that involves all its stakeholders in its strategic decisions. The management team has clearly identified responsibilities and is led by a Director with clear and extensive powers.

A.3.1 Administrative bodies

They ensure that all stakeholders in the school's engineering programmes are represented on the school's governing bodies, in particular representatives of companies, teaching staff, students and public and/or private organisations.

Evidence:

	Composition of the Statutory Boards (Administrative Board or School Council), Development Boards for each programme, Scientific Council, and If applicable the Foundation.	DN link

A.3.2 The school’s organisation

It guarantees the implementation and monitoring of its general policy, its strategic orientations and the training project in good material and moral conditions.

Evidence:

	Hierarchical and functional organisation chart of the school, list and composition of committees and commissions (Management Committee, Development Boards, Student Life Committee, etc.)	DN link

A.4 The school's missions

The school trains students for the engineering profession by awarding them an engineering degree, and develops its own research and innovation policy or in cooperation with other institutions.

A.4.1 The school's training offer

The school has a global strategy for its training offer; it is clear, diversified and adapted to the needs of industry and society.

The school offers a range of initial and, where appropriate, continuing education engineering degree programmes that are consistent with, and complementary to, the school's overall training offer and that of the site(s).

Qualifying and certifying continuing education meets the need to update and develop the skills of engineers and managers in their jobs.

Evidence:

	The school's educational offer, associated degrees and student numbers.	DS1 DS2

A.4.2 Research policy

The school's engineering programmes are based on its own research and innovation activities, or on those in partnership or with the support of identified research laboratories in its environment, the quality of which is recognised by the scientific community (Hcéres evaluation or equivalent evaluation in foreign countries) as well as by the socio-economic world.

The school's teacher-researchers have sufficient working time to carry out their research activities.

The school provides its students with a research environment through the presence on each of its campuses of permanent teacher-researchers and, either in-house or in partnership, dedicated research equipment, premises, platforms, etc.

As the title of graduate engineer confers the academic grade of master, graduates are able to continue their studies with a doctoral degree. The school monitors the number of engineering graduates who go on to doctoral studies through the professional integration surveys it carries out among its engineering graduates.

Evidence:

	Number of researchers, doctoral students and research staff	DS5
	Publications by the school's teacher-researchers (list of the school's publishing staff and number of publications)	DN link
	The school's own laboratories or laboratories run in partnership in which its teacher-researchers are active	RAE
	Link to the Hcéres evaluation report(s) of the laboratory(ies)	Website link

A.5 Resources and their use

The school's governing bodies ensure that the necessary and appropriate resources are allocated to the school in order to guarantee the quality of the training and all the school's missions.

A.5.1 Human resources

The school has a sufficient number of permanent teachers and teacher-researchers* as well as administrative and technical staff to enable it to define and implement its educational offer.

The school employs lecturers and teacher-researchers whose profiles and qualifications are consistent with its strategic ambitions and missions: qualifications, past professional experience, appropriate thematic skills and diversity of teaching staff, teaching skills, involvement in research.

The school calls on non-permanent part-time lecturers, particularly from the socio-economic world, to teach specialised courses or courses with a professional focus. It ensures that the quality of their teaching is appropriate to the objectives of the programmes.

* Teacher-researchers are defined as academic staff at the school who hold a doctorate and who devote at least 30% of their full-time time to research in a recognised and assessed research laboratory and who produce an average of at least one scientific publication every two years. Publications and other scientific outputs taken into account are articles in international peer-reviewed journals, oral or poster presentations with proceedings and a reading committee at an international conference, scientific books, other outputs such as patents, registered software or databases, etc.

The school supports its staff to help them progress in their missions and careers.

Evidence:

	Teaching staff (by category)	DS3
	Non-permanent lecturers, status, hours taught. Part of professionals from industry (number of people, number of teaching hours)	DS4
	Administrative and technical staff	RAE
	Social report	DN link
	HR training plan, including a CSR component	DN link

A.5.2 Premises and material resources

The school has premises and equipment that enable it to carry out its educational mission and all its activities in good conditions: training premises, IT resources, equipment for experimental work, multimedia documentation centre, high-tech platforms, etc.

The school offers material conditions that enable student engineers to benefit fully and safely from their training and to foster their personal development.

The school provides student engineers with facilities that enable them to develop a high-quality student and community life: residences, university restaurants, sports facilities, community premises. It works with local authorities to ensure that sufficient public transport is available and developed for students and staff. The school makes its premises accessible to people with disabilities, in particular those with reduced mobility. (PRM).

Evidence:

	Premises dedicated to teaching (owned and shared) and per pupil	DN link

A.5.3 Information systems and digital resources

The school has a regularly updated information systems master plan. The school relies on a digital charter or set of rules to define the associated uses. This charter is known and signed by all staff and students.

For both education and administration, the school relies on an information system, associated network infrastructures and appropriate digital tools: simulation software for scientific disciplines and assisted design software for technical disciplines, distance learning software and software for managing and organising the school.

Faced with the increase in cyber risks, the school has a programme covering fundamental security rules (identification of risks and responsibilities, management of identifiers and access, management of back-ups, security tests, communication and staff training, etc.) as well as a business continuity plan (BCP).

Evidence:

	Information systems master plan	DN link
	Charter (or internal rules) on the use of digital technology	DN link
	List of digital tools for training and education	DN link

A.5.4 Financial resources

The school has diversified financial resources enabling it to accomplish its missions. It reports on the use of its resources and implements analytical accounting tools, in particular to calculate and monitor the annual costs of its courses by category of student-engineers.

The school draws up a multi-year investment plan.

It is encouraged to implement a responsible purchasing policy, including societal and environmental clauses.

Evidence:

	School's budget approved by its governing bodies (expenses including salaries and income)	DN link
	School's operating budget for training programmes (costs and income) (excluding research)	DN link
	Cost of the programme per student per year	RAE
	FISA (apprenticeship track): average costs taken into account by the professional sectors and received from the apprentice training centres, remaining costs	RAE
	Investment plans (past and future)	DN link
	Financial forecasts in the event of a new programme, a new campus or major expansion	DN link

B. MANAGEMENT OF THE SCHOOL: STEERING, ORGANISATION AND QUALITY SYSTEM

The school is organised and run in a way that is suited to the training of engineers and to all its missions. It complies with the *European Standards and Guidelines for Quality Assurance in the European Higher Education Area (*ESG), adopted by the ministers responsible for higher education in the 49 countries of the European Higher Education Area.

B.1 Steering and management principles

The school's operations are based on an organisation and management processes that are described, efficient, transparent and that integrate quality assurance.

Evidence:

	School's by-laws	DN link
	Management system, Enterprise Resource Planning (ERP)...	DN link

B.2 Quality approach

B.2.1 Quality policy

The school is committed to quality and continuous improvement in the definition, implementation and results of its various activities. The school has defined a quality strategy and policy, which has been made public.

The school defines the appropriate processes and tools that enable it to ensure the quality of its activities and results; these elements form an integrated and coherent system of internal and external management of overall quality.

The school organises its quality management system in the best possible way. The bodies and staff responsible for the quality approach are duly designated and identified as such within the school.

The CTI evaluation process is deemed to meet the requirements of the National Quality Standards (RNQ) enabling accredited engineering schools to claim a qualification equivalent to the Qualiopi label (taking into account disability situations is a critical element of the Qualiopi label).

All staff members are committed to the continuous improvement approach.

Evidence:

	Quality system (quality policy, management tools, etc.)	RAE
	Process mapping, including support processes such as human resources management and process managers	DN link
	Monitoring systems and indicators	DN link

B.2.2 Continuous improvement

The school systematically evaluates the various external and internal processes relating to management, education (including the skills approach), support services and partnerships.

It draws up and implements a corrective action plan and monitors its implementation on a regular basis. The school informs the stakeholders of this follow-up.

The school has put in place a fully operational system for the evaluation of teaching by students: regular and systematic teaching evaluation questionnaires, a monitoring committee, communication of the results and resulting actions to those concerned, including students, and effective use in the progress process.

Evidence:

	Course evaluation questionnaires	DN link
	Recent examples of continuous improvement within the school	RAE

B.2.3 External quality assurance apart from the CTI

The school meets the requirements of external evaluations carried out by other evaluation bodies (Hcéres, certifying bodies for institutions or programmes) which it is required to carry out or which it chooses on its own initiative.

Evidence:

	Existence and results of other assessments: Hcéres, green plan or DD&RS label, ISO, Qualiopi, etc.	DN link

B.2.4 Follow-up to the CTI evaluation

The CTI's recommendations for improvement are immediately taken into account by the school's management and staff. In the case of a maximum accreditation period without an interim evaluation process, the school completes a Mid-term Recommendations Follow-up Table, which provides a brief summary of actions completed, in progress and planned.

If the CTI issues an injunction in its decision, the school will spontaneously provide an action plan within the specified timeframe.

Evidence:

	Table of recommendations for improvement from the previous evaluation process and actions taken	Table 1

C. EXTERNAL LINKS AND PARTNERSHIPS

The school is strongly integrated into its local, national, European and international environment; it is fully aware that this openness to the outside world is a fundamental dimension that enables it to carry out its missions with quality; it forges partnerships with peer institutions and with its stakeholders, in particular companies and local authorities.

C.1 Local links

The school forges lasting and mutually beneficial relationships with companies, local authorities and regional and local players in education, research, innovation, business creation and the socio-economic environment.

The school is developing relationships with the secondary schools in its geographical area, with the aim of encouraging and supporting vocations for engineering education and removing inhibitions.

These relationships help to develop social diversity and a balanced profile in all of its engineering programmes.

Evidence:

	Actions to promote diversity, in particular the "Cordées de la réussite" initiative.	DN link

C.2 Corporate partnerships

The school builds lasting and mutually beneficial relationships with companies. It involves personalities from the socio-economic world in its governance and operations.

The school is fundamentally in touch with its socio-economic environment, particularly when drawing up training plans, and ensures that its development coincides with the forecast changes in this environment.

Professionals working in companies are involved in the programme design and the teaching.

The school maintains links with innovative companies, including large groups, ETIs, SMEs, VSEs, start-ups and public authorities.

The school's research and innovation activities lead to contracts with companies.

Evidence:

	Cooperation agreements with companies (innovation/research Chairs, framework programmes, industrial research training agreements for PhDs (Cifre), etc.)	DN link

C.3 Innovation and entrepreneurship policy

The school has a clearly identified strategy in the areas of innovation, transfer of research results and entrepreneurship.

The school participates in operations to raise awareness of innovation, transfer and entrepreneurship (PEPITE, incubators, business incubators, innovation centres, etc.) in collaboration with specialised structures.

Through its teaching and research activities, the school contributes to the creation of innovative projects, products or services, activities and businesses, in particular to provide solutions to the problems posed by transitions. It pays particular attention to taking into account the uses and impacts of these products and services.

The school has, or shares, the appropriate structures to carry out these activities.

The school involves all its teaching staff and students in these activities.

Evidence:

	Number of student-entrepreneurs supported by a dedicated structure (such as the "PEPITE" initiative)	DS6
	Number of business start-ups (past years)	DS6
	Patents, software licences and trademarks	DN link

C.4 Partnerships and national networks

The school keeps abreast of developments and seeks recognition at national level. It establishes cooperation or relations at this level.

The school plays an active role in the national networks that relate to its various areas of activity.

It is developing a communications policy aimed at disseminating the latest knowledge and innovations in its specialist areas to secondary school students and the general public.

Evidence:

	List and content of partnership agreements signed by the school	DN link

C.5 International partnerships

The school is integrated into European and international teaching and research networks made up of institutions of equivalent level, with the aim of exchanging in the field of education, collaborating in research, establishing industrial partnerships and being supported and recognised (labelling), as well as with a view to mutual improvement and enrichment.

The school has put in place a policy to encourage incoming and outgoing mobility for lecturers, teachers-researchers and administrative and technical staff.

Partnerships must be established with institutions that award an equivalent degree (academic grade of master) in the field of engineering sciences, recognised by the relevant authorities.

The scientific and academic links forged at European and international level have an impact on teaching methods and training programmes.

With a view to internationalising its programmes and within the framework of agreements, the school is developing international mobility opportunities for students and staff, dual degree programmes and joint programmes, while taking care to control their environmental impact.

The school implements a number of initiatives, including programmes recognised by labels such as "Welcome to France" awarded by Campus France, to organise and improve the welcome given to international students.

The school regularly evaluates current agreements.

Evidence:

	Mobility flows (incoming and outgoing): - of students by programme and specialization, - teaching, administrative and technical staff	DS7 DN link
	List and content of international agreements signed by the school	DN link

D. THE ENGINEERING CURRICULUM

This part will be structured in two parts in the schools' self-evaluation report: the first part will describe the elements common to the various degrees (for example, study regulations, validation rules, internationalisation, language proficiency, disability management, etc.) and the second part will be broken down by degree, presenting only the specific elements (course objectives, syllabus, cross-matrix of teaching units and skills, etc.).

Two separate engineering degrees must differ by at least 50 per cent in terms of the volume of scientific and technical teaching hours in the engineering cycle (last three years of the 5-year programme). Two specific last year specialisations in the engineering cycle do not justify the existence of two separate degrees.

D.1 Programme design

The training project leading to the engineering degree meets an identified and significant need for scientific, technical, industrial, human and organisational skills, which emanates from one or more professional sectors and from society. The target employment market is regional, national and international. The programme is designed in a participative and cooperative manner involving the school's stakeholders.

Within the school, a structure for dialogue is organised (for example a Development Board) involving the social and professional environment representative of the professions targeted by the degree programme. This structure characterises and updates the profiles of the engineers to be trained according to needs, particularly in relation to transitions. Future needs for the sectors and/or professions envisaged are regularly assessed at global level and not just at local level. These needs are expressed in terms of job descriptions (detailed analysis of the activities to be carried out by engineers) and in terms of potential recruitment.

This forum for dialogue is also used to identify the professional, societal, environmental, ethical and deontological issues created by technological innovations. Students and graduates take part in the exchanges.

Dialogue can be established with partnership structures (representing professional organisations) which may appear in the title of the degree.

Evidence:

	Minutes of Development Board meetings	DN link
	Elements of the sheet for the National Directory for Professional Certifications (Répertoire National des Certifications Professionnelles - RNCP), including objectives, target occupations and certified skills (see the related factsheet on the CTI's website)	DN link
	Surveys and/or studies on the market's needs for the school's programmes and observed and expected trends	DN link

D.2 Expected Programme Outcomes

The programme must enable the students to develop the expected competences of an engineer, which implies that the curriculum facilitates the acquisition of the knowledge, know-how, interpersonal skills and aptitudes necessary for the development of these skills during the training.

The processes for defining, developing and assessing skills during the training programme constitute the "skills approach". The student-engineer is at the centre of this process, insofar as the approach is geared towards the acquisition of skills by the student with a view to his or her professional project.

The competence framework is designed by the school and combines the essential elements of an engineering education with the criteria for the academic grade of master, in an integrated and contextualised way for each degree programme.

The teaching staff and students are informed of this process and take part in it.

A sheet for the National Directory for Professional Certification (RNCP) is drawn up, detailing the targeted activities and skills, grouping them into coherent, globally assessable units (blocks of skills), listing the conditions for validation and the conditions for access to the degree; it is consistent with the detailed training plan of the programme and the developed skills approach, and is regularly updated.

The essential elements of an engineering education:

ACQUISITION OF SCIENTIFIC AND TECHNICAL KNOWLEDGE AND COMMAND OF ITS IMPLEMENTATION

1. knowledge and understanding of a wide range of basic sciences and the ability to analyse and synthesise them
2. the ability to mobilise resources in a specific scientific and technical field (or fields)
3. mastery of engineering methods and tools: identification, modelling and resolution of even unfamiliar and incompletely defined problems, the systemic and holistic approach, the use of digital approaches and IT tools, systems analysis, modelling and design, analysis of the life cycle of a product or service, risk and crisis management, collaborative and distance working skills, etc.
4. the ability to design, implement, test and validate innovative solutions, methods, products, systems and services, after a preliminary questioning on their uses and impacts
5. the ability to carry out basic or applied research and to set up experimental facilities; the ability to handle orders of magnitude based on scientifically backed data
6. the ability to find, evaluate and use relevant information: "informational competence".

ADAPTING TO THE SPECIFIC REQUIREMENTS OF A COMPANY AND SOCIETY

7. the ability to take account of the company's challenges and report on its actions: economic dimension, compliance with social and environmental requirements, compliance with quality, competitiveness and productivity, commercial requirements, business intelligence, etc.
8. the ability to integrate ethical and professional responsibilities into one's conduct, and to take account of workplace relations, health and safety and diversity issues
9. the ability to support transitions, particularly digital, energy and environmental transitions, by integrating ecological and climatic imperatives
10. the ability to take account of the issues and needs of society and to disseminate the principles and contributions of the scientific approach

AWARENESS OF THE ORGANISATIONAL, PERSONAL AND CULTURAL DIMENSION

11. the ability to enter professional life, to integrate into an organisation, to lead it and to develop it further: exercising responsibility, commitment and leadership, project management, the ability to work collaboratively and to communicate within diverse, multi-disciplinary teams
12. the ability to undertake and innovate, through personal projects or through initiative and involvement in entrepreneurial projects within the company
13. the ability to work in an international and multicultural context: mastery of one or more foreign languages and associated cultural openness, ability to adapt to international contexts and to cooperate on collective global issues
14. the ability to know oneself, to assess oneself, to manage one's skills (particularly with a view to lifelong learning) and to make career choices

D.3 Engineering degree programme in the form of initial training

D.3.1 Structure and syllabus of the engineering programme

In order to achieve the level of skills development described in the programme design, the student follows a ten-semester (5-year) programme in higher education, comprising multi-disciplinary academic teaching, technological training and periods of training in the workplace; the training includes exposure to fundamental or applied research.

The initial training in engineering is designed either in ten semesters after the secondary education final examination (baccalauréat) or in six semesters after at least four validated semesters of higher education. The last 3 years of studies are defined as "engineering degree cycle". After his/her recruitment, the student engineer's entire curriculum is supervised by the school with a view to acquiring the school's culture, in line with the school's training project and shared with all students, regardless of their status.

The part of the training carried out outside the school (work placements, academic exchanges, etc.) must be carried out under the supervision of the school, which may be shared.

There are three types of initial training:

- the FISE ("*formation initiale sous statut d'étudiant*"), under student status
- the FISA ("*formation initiale sous statut d'apprenti*") the apprenticeship track
- the FISEA ("formation initiale sous statut d'étudiant puis d'apprenti"), study track under student status for year 1 of the engineering degree cycle then under apprentice status for years 2 and 3

For the same programme, a school may offer several tracks simultaneously, with the different tracks leading to the same degree and the same RNCP sheet characterised by the same set of skills. Each study track corresponds to a coherent training programme whose general architecture meets the major criteria described in the table below. Each track has its own specific recruitment process.

Successful completion of the programme leads to the award of a degree in engineering from the school, which confers the academic grade of master, an international benchmark and a prerequisite for pursuing doctoral studies.

The syllabus is clear and structured into teaching units (UE), which are credited with ECTS and cannot be offset against each other, and teaching unit components (ECUE), which are not credited with ECTS.

For each teaching unit and each component, the syllabus indicates the number of hours of face-to-face or distance learning, by teaching method (lectures, tutorials, practical work, projects), as well as the estimated amount of time for personal work by the student, the targeted competences and the assessment methods.

Each UE is defined in terms of learning outcomes which, if validated, will lead to the award of ECTS credits. The link between each UE and the competency framework is explained. The number of ECTS credits allocated to each UE is indicated and clearly linked to the overall expected workload. One semester corresponds to a workload of 30 ECTS credits.

Each component (ECUE) (including not only courses but also projects, work placements and periods spent in a company as part of a sandwich course) is characterised by the learning outcomes it aims to achieve and how they are assessed, a brief summary of the content and the prerequisites.

The school has defined and validated a set of study regulations with its governing bodies. These describe all the rules for validating credits, semesters and the engineering degree, as well as the measures that can be taken in the event of a credit or semester not being validated, and the procedures for appeals by students. These regulations are updated annually; they are public and are sent to each student on arrival at the school and at the beginning of each academic year.

Students with a disability or incapacitating health condition must have their studies and assessments adapted on a case-by-case basis, in particular to enable them to learn and validate the levels of French and English required for achieving the degree. These arrangements are set out in an "individual inclusion and adaptation contract" (see disability factsheet). The same applies to students involved in top-level or elite sports. Special arrangements may also be made for specific career paths (sporting, artistic, associative, etc.), long-term illnesses or life accidents.

<table>
<tr><th colspan="2">MAJOR CRITERIA FOR THE GENERAL STRUCTURE OF THE PROGRAMME
The skills framework is the same for all tracks of the same programme
(same degree title)</th></tr>
<tr><td>Initial training under student status (FISE)</td><td>Initial training under apprentice status (FISA)</td></tr>
<tr><td>Students must complete at least three academic semesters of teaching (excluding the final overall project in a company) in a school under the active supervision of the school awarding the engineering degree during the last six semesters of the engineering programme, as well as a one-semester final overall project work placement, the supervision of which may be shared with another institution.

One of the 3 academic semesters may be spent in a partner higher education institution (HEI) with which the school has established a proven partnership (in the case of a joint degree: recruitment, training and quality assurance system jointly developed by the two HEIs).

The final overall project placement, which normally takes place in semester 10, is carried out under the effective supervision of the school (possibly shared with another institution, particularly in the case of a double degree agreement).

The final year of the course can be completed under a vocational training contract, i.e. as an employee. In this case, it is organised in the form of a succession of periods in companies and academic periods, implementing a truly efficient work-study approach. The school will inform the CTI of this provision during the accreditation renewal evaluation process. It will specify how it is organised and the specific teaching approach adopted as part of a strong relationship with the company, in particular to define the targeted skills. The school will ensure that the corresponding RNCP sheet is completed accordingly, which will be published and active for the duration of the accreditation.

Exceptionally, the final year may be completed under an apprenticeship contract, with the explicit prior agreement of the CTI. A special CTI committee has been set up to examine applications, which must be based on a real work-study approach implemented by schools that already have experience of apprenticeships.</td><td>The specific objectives and methods of the FISA are complementary to those of the FISE, corresponding to the particular needs of companies and apprentices, based on personalised training, while maintaining the required level of the degree (master's degree and engineering title).

The apprentice is both an employee of the company and a student at the school.

On an administrative and regulatory level:
The training is provided by an internal or external apprenticeship training centre (CFA).
If the CFA is external (partner), it signs an agreement with the school that awards the degree. The CFA must meet all its legal obligations (L.6231-2) and comply with the National Quality Standards (effective Qualiopi certification).
For in-house CFAs, compliance with these standards will be verified during the CTI evaluation process.

Apprenticeship training alternates between periods in a company and periods of academic study at the school throughout the three-year engineering cycle (article L6222-7 of the French Labour Code). The apprenticeship contract ends at the end of the final year of the programme.</td></tr>
<tr><td colspan="2">Initial training as a student in year 1 and as an apprentice in years 2 and 3 of the engineering cycle (FISEA)</td></tr>
<tr><td colspan="2">For the FISEA, the first year is completed under student status. The last two years of the engineering training are carried out as an apprentice under the same rules as the FISA, as indicated above.</td></tr>
</table>

D.3.1.a Major criteria for training for the business world

The school uses a variety of teaching methods to develop the expected programme outcomes regarding the business world: participation of professionals in the teaching, projects, case studies, work placements, etc.

<table>
<tr><th colspan="2">KEY CRITERIA FOR ON-THE-JOB TRAINING</th></tr>
<tr><th>Initial training under student status (FISE)</th><th>Initial training under apprentice status (FISA)</th></tr>
<tr><td>The aim of work placements for student engineers is to develop the skills set out in the curriculum of the programme.

Internships are rigorously managed; they are defined in accordance with the regulations in force, supervised, and are the subject of a report by the student which leads to an assessment in terms of skills acquisition. They are covered by an internship agreement and lead to the award of ECTS credits.

The course concludes with a long work placement, usually in a company (final overall project). During this placement, the student-engineer must apply what he has learned during his training, producing an original contribution that meets the needs of the host organisation.

No student-engineer can be awarded a degree unless they have completed a minimum period of supervised work experience in a company, assessed in terms of skills and leading to the award of ECTS credits. The placement of students with disabilities will be specifically organised and carefully monitored.

In the case of a training under student status, the CTI requires a minimum number of 28 weeks of work placements, primarily in companies in France or abroad. If the student engineer's career plan includes a strong research component, a long placement in a research laboratory may be substituted for the long placement in a company. In this case, the minimum cumulative duration of the work placement in a company during the entire programme may be reduced to 14 weeks.

The school also promotes work placements in SMEs, VSEs and start-ups.</td><td>Work experience is considered an essential part of an engineering programme. Apprentices spend around half of their six semesters of the engineering cycle in the form of alternating periods in the company that employs them.

The selection and implementation of the apprenticeship contract between a company, the school and the apprentice are crucial to the success of the training project. The school also promotes work-study placements in SMEs, VSEs and start-ups, provided there is a suitable level of supervision.

Work experience is defined, supervised and assessed in terms of skills acquisition. Each period (or group of periods) in a company gives rise to the award of ECTS credits, in the same way as the teaching units provided in the school. Welcoming disabled apprentices to companies will be specifically organised and carefully monitored.

The course culminates in the production of a final dissertation based on an original contribution that meets the needs of the company.

The number of credits awarded for periods spent in the company must be significant, and therefore between 1/3 and 1/2 of the total number of credits awarded for the entire course, with the remainder rewarding the skills acquired during the academic periods.

The complementary nature of the school and the company must be clearly established, both in terms of acquisition objectives and chronology. There must be a specific document setting out the roles of each entity in relation to the competencies describing the training.

Periods spent in the company are systematically reported on by the student according to procedures defined by the school, including a reflective approach to professional practice.</td></tr>
</table>

Initial training as a student in year 1 and as an apprentice in years 2 and 3 of the engineering cycle (FISEA)
For the FISEA track, the major criteria for in-company training of the FISA track apply to the ast two years of the programme. As such, apprentices spend around half of their 2nd and 3rd years of the engineering cycle in the form of alternating periods in the company that employs them. The number of credits awarded for periods spent in the company must be significant and therefore between 1/3 and 1/2 of the total number of credits awarded for the 2nd and 3rd years of the engineering cycle, with the remainder being awarded for the skills acquired during the academic periods.

D.3.1.b Major criteria for training through research

All engineering students are exposed to fundamental or applied research, which is implemented through the teacher-researchers on the educational team. This exposure should enable student engineers to develop inductive reasoning that combines scientific rigour, creativity, the virtues of doubt and the ability to challenge oneself.

D.3.1.c Major criteria for training in societal and environmental responsibility

Right from the start of the engineering cycle, the syllabus should be geared to the major medium- and long-term challenges facing society.

The curriculum includes basic teaching specific to societal and environmental responsibility for all students, covering the Sustainable Development Goals (SDGs), climate issues, planetary limits, ecological and energy transitions, eco-design, digital sobriety and the social responsibility of organisations. The knowledge acquired in these courses and the associated skills are assessed. A systemic approach is favoured.

Each student engineer is trained to analyse the life cycle of a product or service, from the design (use of resources, carbon footprint, energy footprint, etc.) to the recycling.

Pedagogical activities, lessons, projects, case studies, etc., specifically designed to explore in greater depth the theme of societal and environmental responsibility specific to the technical fields covered, are included in each of the thematic and professional orientations (specialisation, in-depth pathway, etc.) of the programme and are given priority at the end of the curriculum.

The concepts of ethics, professional conduct and health and safety in the workplace are covered throughout the course.

D.3.1.d Major criteria for training for innovation and entrepreneurship

The engineering education must include cross-disciplinary activities and specific events enabling all students to carry out a personal or collective creative project (innovation or business), in particular by listening to needs, being creative, experimenting and drawing up a business plan. These activities are to be implemented at two levels: on the one hand, a general training, as early as possible in the curriculum, for all students, and on the other hand, the possibility of going into greater depth. Activities with students from other sectors will be sought out and facilitated. Student engineers are trained to anticipate the uses, benefits, consequences and protection of the innovations or created activities.

To develop an entrepreneurial project, the school encourages access to the student-entrepreneur status and possibly to the national "student-entrepreneur" diploma (D2E).

D.3.1.e Major criteria for training for an international and multicultural context

The school ensures that students have a command of the French and English languages that enables them to perform effectively in professional written and oral communication situations (mastery of grammar and spelling rules, ability to use a wide vocabulary and precise syntax). The school also encourages students to learn and practise at least one other foreign language in addition to English.

In English and French as a foreign language, the minimum linguistic level to be validated in all skills in order to obtain the title of graduate engineer is level B2 of the Common European Framework of Reference for Languages (CEFR), with the exception of Continuing Education, where level B1 may be accepted on an exceptional basis. However, in English, level C1 is recommended for all engineers in the four language communication activities: oral and written comprehension; oral and written interaction; oral and written production; mediation. The assessment combines an internal assessment through role-playing on professional skills and an external assessment through a test recognised in the professional or academic world. The time taken to validate the required level of language proficiency may not exceed three years after the end of schooling. For information on language acquisition for learners with certain disabilities, see the factsheets on languages and disabilities.

Each student engineer is required to go on an international mobility, either in a company or in a research/innovation laboratory. To organise this mobility, the student-engineer is supported by the school, which draws on its international partnerships in particular. International students (foreign students who have completed their studies abroad up to and including the preparatory cycle) are considered to be on international mobility during their stay in France, and therefore fulfil this obligation.

In addition, the school has set up 'internationalisation at home' schemes, in particular by promoting the presence of international students, which help to develop the international and intercultural skills associated with the degree.

MAJOR CRITERION FOR INTERNATIONAL STUDENT MOBILITY	
Initial training under student status (FISE)	Initial training under apprentice status (FISA)
The schools make an international mobility compulsory as part of the engineering cycle. However, it is permissible for part of the mobility to take place during the preparatory cycle in the case of five-year programmes, provided that the mobility is prepared and supervised by the school and feedback is organised at the end of the mobility. This international mobility can take the form of an academic period or a work placement in a company or laboratory and must last at least one semester: at least 17 weeks of academic, professional or research activities and preferably 20 weeks.	The schools make an international mobility compulsory as part of the engineering programme. In accordance with Law no. 2018-771 of 5 September 2018, this international mobility can take place either in a host company or in a host training centre (academic institution). It lasts at least one term: at least 9 weeks of academic, professional or research activities and recommended 12 weeks. The apprentice's host company in France must be informed of this international opening before the apprenticeship contract is signed.
Initial training as a student in year 1 and as an apprentice in years 2 and 3 of the engineering cycle (FISEA)	
The major FISA criteria described above apply strictly to the FISEA.	

Evidence :

	FISE: Organisation of the curriculum	Table 2
	FISA: Organisation of the curriculum	Table 3
	FISA: Calendar of the alternating periods in school and in the company	Table 3
	FISA: Apprenticeship centre (CFA) and partner agreement(s), school/company balance, description of in-company activities	DN link
	Syllabus with objectives, breakdown of teaching methods, learning outcomes and assessment methods	DN link
	Study regulations	DN link
	Model of a degree document and of the personalised Diploma Supplement	DN link
	Booklet on the school's disability policy and model of an individual inclusion and adaptation contract (described in the thematic factsheet)	DN link

D.3.2 Consistency between the expected programme outcomes and the curriculum

The link between each teaching unit (UE) in the curriculum (including work experience) and the skills to be acquired is formally established (for example in the form of a cross-matrix).

The design of the training programme based on the targeted level of development for each skill in the reference framework must remain compatible with a degree of modularity in the training (elective courses, optional pathways), but each student must have the opportunity to acquire all the skills in the reference framework (possibly at different levels depending on their pathway).

Internships, projects, role-playing, etc. are ideal opportunities for assessing skills (scientific, technical, human and social, etc.).

With regard to the essential elements of training defined by the CTI and the school's skills reference framework, part of the training is necessarily devoted to disciplines such as languages and human, economic, social and legal sciences (economics, management, communication, philosophy, epistemology, history, entrepreneurship, ethics, intellectual property, company and employment law, health and safety at work, social relations, sustainable development and ecological transition, etc.).

D.3.2.a Gap period

Student engineers under student status have the opportunity to take a gap period of at least one semester and no more than one year during the engineering cycle. The gap period is strictly voluntary for the student engineer. Under no circumstances may it be made compulsory and it does not contribute to the acquisition of ECTS credits required to obtain the degree. Under no circumstances can it replace the usual ways of acquiring the expected programme outcomes. The measures taken by the CTI concerning the practice of the gap period take account of the circulars in force, which include the procedures set out therein.

The provisions for the implementation of the gap period are clearly specified in the school's study regulations. The system for reducing enrolment fees and the arrangements for pedagogical support are explicit and communicated to the students.

However, when the activities carried out during the gap period contribute to the acquisition of the international and multicultural skills or skills relating to societal or environmental responsibility expected of engineering students, they may be validated as part of the programme. This validation must have been requested by the student and the monitoring and validation procedures must have been established by the institution prior to the gap year. This possibility must concern a limited number of students* .

Evidence :

	Cross-tabulation of UEs / targeted skills / learning outcomes	Table 4
	Systems for assessing skills acquired at school, in Industry, in research, in ecological transition, in languages, in multicultural approaches, etc.	DN link

* The CTI will check that the international mobility requirements imposed by the school can be met normally, without extending the duration of studies by a gap period. In particular, the school must devise a training schedule that allows the compulsory internships and international mobility to be completed. During its evaluation processes, the CTI may ask about the number of periods of inactivity per year, how they have developed and the methods used (salaried employment, voluntary work, internships, etc.), and may check that they have been carried out in compliance with the regulations in force and that the skills validated as part of the programme do in fact concern a limited number of students.

D.3.3 Teaching methods

The school develops teaching methods that are adapted to the competence-based approach, i.e. using a large number of situations that are ideally cross-disciplinary (projects, case studies, problem-based learning, etc.) and favouring learner-centred teaching methods (active teaching in general (for example the flipped classroom), lectures in large interactive classes, scientific debates, group work, etc.).

Educational innovations are encouraged, developed and shared. They are regularly evaluated. The school allocates the resources needed to implement them.

Apprenticeship/work-linked training is based on different learning methods from the teaching under student status. It is desirable for apprentices and students to come together for specific periods of study (such as joint projects), without this being systematic or calling into question the specific pedagogical approach of sandwich courses.

Personal work and the development of the students' autonomy are essential to the development of engineering skills, which requires the integration of learning from courses given during the curriculum in different ways (regular classroom lectures, tutorials, practical work, problem-based learning and individual and group projects). The relative balance of these different methods must also be justified.

To enable learners to develop their autonomy, face-to-face teaching time is limited.

This face-to-face teaching can be organised either on-site or remotely. The method chosen for each course must be explicitly stated in the syllabus. The use of distance learning must be the result of a genuine pedagogical reflection to improve the quality of the teaching and learning conditions. Distance learning activities must be limited and controlled (see table below) and the way they are implemented must ensure a rich and easy interaction between learners and teachers, as well as within the learner group. These implementation methods must be regularly evaluated and integrated into the school's continuous improvement process.

<table>
<tr><th colspan="2">MAJOR CRITERIA RELATING TO THE FACE-TO-FACE TEACHING
AND STUDENT FOLLOW-UP</th></tr>
<tr><td>Initial training under student status (FISE)</td><td>Initial training under apprentice status (FISA)</td></tr>
<tr><td>The volume of supervised training hours (face-to-face teaching) during the six semesters of the engineering cycle must be more than 1,800 hours and less than 2,000 hours. The use of teaching methods involving project-based learning or active teaching methods may result in this limit being lowered to 1,700 hours.
The latter may not exceed 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The methods used to implement distance learning activities must be regularly evaluated and integrated into the school's continuous improvement process.
A student engineer's workload (face-to-face teaching + personal work) corresponds to a maximum of 30 ECTS credits per semester and a total of 180 ECTS credits for the entire engineering cycle.
The school verifies the results obtained and provides monitoring and personalised support for students.</td><td>The volume of supervised training hours (face-to-face teaching) during the six semesters of the engineering cycle must be more than 1,600 hours and less than 1,800 hours. The use of teaching methods involving project-based learning or active teaching methods may result in this limit being lowered to 1,500 hours.
The latter may not exceed 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The methods used to implement distance learning activities must be regularly evaluated and integrated into the school's continuous improvement process.
A student engineer's workload (attendance at school and in the company + personal work) corresponds to a maximum of 30 ECTS credits per semester and a total of 180 ECTS credits for the entire engineering cycle.
The school verifies the results obtained, including those obtained in the workplace, and monitors students with the apprenticeship training centre (CFA) as part of a continuous improvement process.</td></tr>
<tr><td colspan="2">Initial training as a student in year 1 and as an apprentice in years 2 and 3 of the engineering cycle (FISEA)</td></tr>
<tr><td colspan="2">The volume of supervised training hours (face-to-face teaching) during the six semesters of the engineering cycle must be more than 1,700 hours and less than 1,900 hours. The use of teaching methods involving project-based learning or active teaching methods may result in this limit being lowered to 1,600 hours.
The latter may not exceed 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The methods used to implement distance learning activities must be regularly evaluated and integrated into the school's continuous improvement process.
A student engineer's workload (attendance at school and in the company + personal work) corresponds to a maximum of 30 ECTS credits per semester and a total of 180 ECTS credits for the entire engineering cycle.
The school verifies the results obtained, including those obtained in the workplace, and monitors students with the apprenticeship training centre (CFA) as part of a continuous improvement process.</td></tr>
</table>

Evidence :

	FISE: Number of hours and ECTS in Sciences/Technology/ Humanities & Social Sciences/ languages per semester	Table 2
	FISA: Number of hours and ECTS in Sciences/ Technology/ Humanities & Social Sciences/ languages per semester	Table 3
	Number of hours and ECTS in classroom lectures/ tutorials/ workshops/ projects per semester Balance of face-to-face & remote	Table 5
	Innovative teaching methods	DN link
	Upgrading programme for new recruits and student monitoring system	DN link
	Failure management	DN link

D.3.4 Teaching team

For each programme and on each of the campuses where it is offered, the school ensures that the teaching team is working properly: balance between the school's permanent teaching staff and temporary staff, teachers' workloads, resources allocated to the programme, etc.

The school ensures that its student engineers are supervised by permanent lecturers and teacher-researchers at each of its campuses, so that student engineers can be properly monitored and supported throughout their studies. The recommended student-teacher ratio, calculated by taking the number of students in all programmes (from 1st year of post-secondary education to 6-year degree in higher education) divided by the number of permanent teaching staff at the school, is less than 20 (this number is not a cut-off point but an indicator to be contextualised where appropriate).

At least 25% of the scientific and technical teaching on the engineering cycle at each of the campuses is carried out by permanent teacher-researchers from the school (or from a partner higher education institution with an agreement regarding the teaching).

The target for courses taught by non-permanent lecturers from the socio-economic world is 25% of the total engineering cycle for each of the campuses. A ratio of less than 20% must be justified by reference to the nature of the programme.

Evidence :

	Human resources allocated to the engineering degree programme	DS3
	Description of the educational team and its qualifications	DN link

D.4 Specialised engineering diploma

The specialised engineering diploma is obtained at the end of a post-graduate engineering course. The CTI can award the EUR-ACE ® label to such a post-graduate diploma.

The course is aimed at graduates with an engineering degree from an accredited French school. Recruitment may be extended to certain holders of a foreign engineering degree or a foreign master's degree in engineering. Automatically included in this category for admission are programmes that have been accredited following a CTI evaluation process and programmes that have been awarded the EUR-ACE® label at master's level by an agency authorised by ENAEE. In exceptional cases, the school may admit foreign applicants from other courses, but must be able to justify the quality of the foreign degrees. The admissibility analysis is based on a study of the characteristics of the prior qualification and degree and not on the student's file.

In other cases, the specialised engineering diploma may be open to holders of a scientific degree conferring a master's degree. In this case, the diploma awarded to this category of students is not the specialised engineering diploma but a certificate (institutional diploma).

The course must meet specific criteria: a minimum of two semesters and a maximum of three semesters of study, corresponding to a total of between 60 and 90 ECTS, a minimum of three months' work experience in a company, teaching in the humanities, economics and social sciences related to the environment in which the target professions are located, and recommended international exposure as part of the curriculum. In English and French as a foreign language, the minimum linguistic level to be validated in all skills in order to obtain the diploma is level B2 of the Common European Framework of Reference for Languages (CEFR). In English, however, level C1 is recommended. Assessment combines internal assessment by means of simulations of professional skills and external assessment by means of a test recognised in the professional or academic world. For information on language acquisition for learners with certain disabilities, see the section on disabilities of the engineering degree.

The course may be delivered on a sandwich course basis, in compliance with the organisational and pedagogical criteria for the implementation of this method.

Agreements for double degrees in France and abroad may be concluded between a school that offers the engineering degree programme and a school that offers the specialised engineering diploma, subject to the following provisions: the existence of an agreement between the two institutions, the competences covered including those offered in their entirety by the two qualifications, and the award of the degree & diploma after at least semester 11.

D.5 Engineering degree through continuing education and validation of acquired experience (VAE)

D.5.1 Continuing education

The continuing education track is open to employees or jobseekers with at least a level 5 degree (of the European and French Qualifications Frameworks) in scientific and technical subjects plus at least a one-year professional experience.

Continuing education prepares students for an engineering degree through training tailored to the stakeholders involved, which can take several forms: full-time classroom-based training, part-time training between the engineering school and the company, work-study training under a vocational training contract or apprenticeship contract, training outside working hours, training that is partly full-time and partly remote learning…

The traditional academic duration of a complete continuing education programme is 1,200 hours. Trainees can benefit from provisions for the validation of prior learning, enabling them to follow an adapted course. Certification in English at level B2 of the Common European Framework of Reference for Languages (CEFR) is required to obtain the engineering degree; a B1 level may be accepted in exceptional cases.

Depending on the case, continuing education can take the form of:

* either a programme leading to a specific engineering degree with an individual RNCP certification (National Directory for Professional Certifications). This is a programme for which a prior study has shown that there is a significant need, and which is therefore subject to a specific accreditation. In this case, the course is run with a group of learners who are all part of the continuing education system.
* or an existing programme under student or apprentice status. In this case, the accreditation is extended to continuing education and the same RNCP sheet is used, with the same description of skill blocks as the existing course.

The course must comply with the current legislation, in which professional qualifications registered with the RNCP are broken down into blocks of skills, describing a homogenous and coherent whole. The school must ensure that it is possible to validate each of the skill blocks as defined in the RNCP sheet. These blocks may be validated separately.

The school's study regulations must include specific provisions for continuing education.

With reference to Article 6 of the Law of 5 September 2018 for the freedom to choose one's professional future (Art. L. 6316-4. - I. and II of the Labour Code), the CTI verifies the 7 criteria and 32 quality indicators of the QUALIOPI label (Ministry of Labour / France Compétences).

D.5.2 Validation of acquired experience (VAE)

Introduced by the Social Modernisation Act of 2002, validation of acquired experience (VAE) is a way of gaining access to a degree, title or certificate of professional qualification.

For the engineering degree, it complements the possibilities offered by initial training as a student, as an apprentice, by continuing education and by state certification, which awards the title of state-qualified engineer ("ingénieur diplômé par l'Etat" - IDPE).

The degree remains identical regardless of the route taken. This validation of acquired experience (professional, voluntary, etc.) with regard to the degree may be partial or total. It is established in relation to the skills and professions of the graduate engineer of the school awarding the degree as they appear in the RNCP sheet for the programme.

Certification in English at level B2 of the Common European Framework of Reference for Languages (CEFR) is required to obtain the engineering degree; in exceptional cases, level B1 may be accepted.

Any degree registered with the RNCP is automatically accessible through VAE. VAE is not therefore the subject of a specific accreditation application. However, during the evaluation process of the engineering degree programmes, the CTI checks certain aspects: the state of progress of the skills repository for the degree and, where applicable, the specialisation; the RNCP sheet and the possibility of validating each of the skills blocks; the VAE process set up by the school; the invoiced cost of the VAE procedure; the support procedure, if desired by the candidate; the composition of the VAE jury; the procedures for prescribing additional experience. While the method for acquiring additional skills may be suggested (training, project, professional experience, etc.), the requirements must not be such as to encourage enrolment in continuing education at the school itself or any other specified institution.

The CTI may examine the individual files of applicants during the evaluation process.

The conformity of the VAE procedure is one of the major criteria of the evaluation process.

D.6 Multi-campus single-degree schools

Schools with multiple campuses may wish to award the same degree for all their training sites.

For a multi-campus school to be able to award a single degree, a number of conditions must be met, including:

* a single or federated legal structure, explicitly mentioning the campuses awarding the degree
* a single form of governance for all campuses, based locally on campus directors who have the power to organise and oversee property, furniture, teaching, research, human resources and student management resources, etc.
* identical implementation of the institution's quality approach on all sites
* each campus fully integrated into its regional or national territory (involvement of companies in the life of the school and in the training, quality of professional integration, existence of direct local academic and research partnerships, etc.)
* the existence of a system to ensure the homogeneity and quality of the teaching staff and the courses at the different campuses, as well as their links with research
* the composition and type of teaching staff, who meet R&O criteria at all sites (supervisory ratio, percentage of teaching given by teacher-researchers and representatives of the socio-economic world, etc.)
* a joint head of studies department for the various campuses
* equivalent recruitment criteria for all campuses
* the uniqueness of the skills reference framework, implying an identic curriculum for the same degree
* comparable levels of teaching resources and equipment at all campuses
* A rich and structured student life, specific to the campus and integrated into that of the school as a whole, fostering a sense of belonging to the school
* identical criteria for obtaining the degree, and a single admissions and degree awarding juries
* a single signatory for the school's degrees, regardless of the training site.

No site may be opened without prior authorisation granted following a process requested by letter of intent.

Opening a site abroad is covered by a specific procedure, published on the CTI website: <u>Procedure for accreditation of a French engineering school with a view to awarding one of its engineering degrees at a teaching site located abroad</u>.

E. STUDENT RECRUITMENT

The school admits students for a programme leading to an engineering degree in accordance with its mission and its training and professional integration project.

E.1 Objectives and admission procedures

The school develops a strategy for recruiting its students in order to fulfil its educational mission, taking into account its intake capacity and with a view to quality.

The admission process to the different programmes forms a coherent, balanced and controlled whole. The recruitment criteria for each programme are adjusted to the training and employment objectives, particularly in terms of skills. They are the subject of clear and public information. The gap between forecasts (announced places offered) and the number of intakes is limited.

The school ensures that the students it recruits are diverse in terms of gender, geographical origin and social background.

The admissions process for French and international students includes individual interviews.

When they join the programme, non-French-speaking international students must demonstrate a minimum B1 level in French as a foreign language, certified by a test recognised in the academic world.

The school verifies the scope and level of the candidates' previous training, particularly in the basic sciences relevant to the degree. It ensures that the previous training and abilities of the students are sufficient to achieve the objectives of the programme and the degree. Where necessary, the school provides appropriate support and additional teaching during the induction period to ensure the success of all students.

The school has drawn up an action plan for the adaptation of admission tests and the accessibility of the training for students with disabilities.

<table>
<tr><th colspan="2">ADMISSION OF ENGINEERING DEGREE STUDENTS</th></tr>
<tr><th>Initial training under student status (FISE)</th><th>Initial training under apprentice status (FISA)</th></tr>
<tr><td>Students may be recruited by competitive examination (after the secondary education final examination ("baccalauréat") for schools offering a 5-year course or after the preparatory classes for 3-year schools).

They may also be based on a portfolio, with additional tests at various levels:
* Recruitment in semester 5 of candidates with a bachelor's degree (level 6 degree) after a general bachelor's degree (L3), a University of Technology Bachelor's degree (BUT), a Bachelor's degree in Sciences and Engineering (BSE) or from a Preparatory Adaptation Class for graduate Specialised Technicians (ATS). Exceptionally, excellent candidates with a professional degree, a University of Technology 2-year degree (DUT), a Specialised Technician Certificate (BTS) or candidates who have completed the second year of a general bachelor's degree (L2), provided that appropriate support measures are put in place to ensure the success of these candidates.
* For schools offering a 5-year programme, some applicants may be recruited after a first year in higher education for direct entry into the second year.
* Recruitment in semester 7 (beginning of the 4th year in higher education) for applicants who have completed the first year of a master's degree (M1) in a scientific field or for foreign applicants who hold at least a bachelor's degree.</td><td>Because of the specific nature of the apprenticeship track, and in particular the diversity of skills sought at the recruitment stage, admissions criteria that focus too much on conceptual skills are out of step with the learners' profile.

Entry to an engineering apprenticeship track (FISA) is :
* Mainly in semester 5, after having obtained a bachelor's degree from a general bachelor's programme (L3), a University of Technology Bachelor's degree (BUT), a Bachelor of Sciences and Engineering (BSE) or from a Preparatory Adaptation Class for graduate Specialised Technicians (ATS). It is also open to excellent candidates with a professional degree, a University of Technology 2-year degree (DUT), a Specialised Technician Certificate (BTS) or candidates who have completed a second year of a general bachelor's degree (L2), provided that appropriate support measures are put in place to ensure the success of these candidates.
* Students from preparatory classes or integrated preparatory courses may also be admitted.
* Admissions are possible in semester 7 (second year of the apprenticeship track) for learners who have completed semesters 5 and 6 of an engineering course under student status or a first year of a master's degree (M1) in a scientific field. These admissions in semester 7 must not represent more than half the number of students in the second year; over the entire 3-year engineering cycle, these admissions must not represent more than a third of the notified flow.</td></tr>
<tr><th colspan="2">Initial training as a student in year 1 and as an apprentice in years 2 and 3 of the engineering cycle (FISEA)</th></tr>
<tr><td colspan="2">Admission takes place mainly in the 1st year of the programme (semester 5) on the <u>basis of a dedicated recruitment</u>. Recruitment can be carried out through:
* A competitive entrance examination after preparatory classes.
* On the basis of a portfolio, possibly with additional tests, after having obtained a bachelor's degree, a general bachelor's degree (L3), a University of Technology Bachelor's degree (BUT), a Bachelor's degree in Sciences and Engineering (BSE) or after completing a Preparatory Adaptation Class for graduate Specialised Technicians (ATS). It is also open to excellent candidates with a professional degree, a University of Technology 2-year degree (DUT), a Specialised Technician Certificate (BTS) or candidates who have completed a second year of a general degree (L2), provided that appropriate support measures are put in place to ensure the success of these candidates.

Admissions are possible in semester 7 (start of the apprenticeship track) for student engineers who have completed semesters 5 and 6 of another engineering degree programme or a first year of a master's programme (M1) in a scientific field. These admissions in semester 7 must not represent more than half the number of students in the second year; over the entire 3-year engineering cycle, these admissions must not represent more than a third of the notified flow.</td></tr>
</table>

Evidence :

	Projected student numbers over the next five years (overall and by programme)	DN link
	Recruitment channels/ methods	DN link

E.2 Monitoring recruitment results

The school monitors and analyses the results of past recruitments and defines an evolving action plan to ensure that its recruitment strategy is consistent with its training and employment strategy and to increase the gender and social diversity of its recruitments.

Evidence (data largely taken from certified data) :

	Recruitment trends over the last five years (overall and by programme)	DS10
	Selectivity (by programme)	DN link
	Percentage of women and men recruited	DS10
	Recruitment for Continuing Education and Validation of Acquired Experience	DS10 DN link
	Geographical origin of students	DN link
	Scholarship and apprenticeship ratios Parents' professions and socio-professional categories	DS11 DN link
	Action plan for social and gender diversity	DN link

F. STUDENT LIFE AND STUDENT ASSOCIATIONS

F.1 Welcoming and integrating new students

The school welcomes the students and ensures that they are properly integrated into the school and the programme. A welcome booklet or equivalent document is given to each student.

The school asks students to sign the school's study regulations and the IT charter, communicates the school's internal rules and clearly identifies the contact points and persons for situations related to social, medical or disability problems.

A special support system is in place for international students, including help with finding accommodation, residence permit formalities, integration with national students, etc.

Evidence :

	Welcome and integration services for students, including support schemes for learners with social, medical or disability problems and foreign students	DN link
	Welcome booklet or equivalent document	DN link

F.2 Student life

The school considers that student life, particularly in its associative, civic, sporting and cultural dimensions, is a fundamental element in achieving educational objectives. The school contributes to the development of student life by providing students with appropriate facilities and premises.

It encourages responsible community life, which is set out in a specific charter: control of environmental impact, fight against discrimination, attention to isolated groups, promotion of responsible behaviour (fight against addictions, harassment, violence, including sexist and sexual violence, etc.). Preventive measures are implemented together with student engineers.

The school has incorporated elements relating to the recognition of student commitment into its study regulations. This recognition must be linked to the acquisition of specific skills identified in the reference framework, and may take various forms, in particular the awarding of additional ECTS credits recorded in the Diploma Supplement.

Evidence :

	Charters, in particular for a responsible community life	DN link
	Rules for valuing student commitment	DN link

G. PROFESSIONAL INTEGRATION OF THE GRADUATES

The school's main concern is the long-term professional integration of its graduates, including students who are continuing their studies.

G.1 Preparing for employment

The school has set up a system for students covering career information, guidance and preparation for employment. To this end, the school can draw on the information contained in the RNCP sheet (National Directory for Professional Certification) for the programme. It pays a particular attention to communicating about the careers of the future, including those brought about by digital and environmental transitions. The school promotes the setting up of innovative activities and companies and provides support for the concerned student engineers. The professional integration of students with disabilities is anticipated.

G.2 Professional integration results

The school has taken steps to keep abreast of and assess the future of careers and employment in the sectors and areas that concern it. It identifies new career opportunities in connection with the digital and environmental transitions.

The school has a job placement and careers observatory, which conducts job placement surveys for its graduates over a 3-year period and collects data on professional sectors, responsibilities, required skills and salaries. It ensures that it obtains a very high response rate and analyses changes in job opportunities. The school communicates the results of these surveys to its students and graduates.

The school ensures that its graduates' first jobs are in line with its integration objectives and the needs of companies.

The school ensures that the status and salary levels offered to its graduates are consistent with their qualifications.

The school ensures that the RNCP sheet (National Directory for Professional Certification) is consistent with the results of the integration process.

G.3 Professional life of the graduates

The school keeps itself informed about the careers of its graduates.
The school raises students' awareness of lifelong learning opportunities.
The school fosters relations between students and graduates; it encourages and supports the existence of an alumni association.

Evidence :

	"Conférence des Grandes Écoles (CGE)" standard survey, response rate and results by programme and by gender	DN link DS12

Commission des titres d'ingénieur
44 rue Cambronne, 75015 Paris - France
Tel: +33 (0) 1 73 04 34 30
www.cti-commission.fr
contact@cti-commission.fr