2025

Commission des titres d'ingénieur

References and guidelines (R&O)

MAJOR ACCREDITATION CRITERIA

2025 version
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For further information:

CTI documents are not justified to make them easier to read for dyslexic people

INTRODUCTORY GUIDE

1. Introduction to the R&O

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. The school's management
C. External links and partnerships
D. The engineering curriculum
E. Student recruitment
F. Student life and student associations
G. Professional integration of the graduates

All procedures of the evaluation process are detailed in the specific booklet "Evaluation and accreditation procedures in France and abroad".

The rewriting of the References & guidelines in 2022 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 material that is essential for the experts to carry out the evaluations. Consideration has been given to simplifying the presentation of the evidence: a digital file containing this information is described below (section 3). However, additional documents may be requested during the evaluation by the expert panel.

2. Training structure

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

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

The official name of the specialisation, if it exists, must be chosen from the official list defined each year by the CTI, and drawn up after consultation with the school's stakeholders. The document is available online on the CTI's website: '' *délibération sur la nomenclature des intitulés de spécialités* ''. This bilingual list (French-English) is designed to avoid excessive dispersion of the titles of specialisations that would affect their readability, as well as a too restrictive naming 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 accessible to the experts and will help to avoid the lack of consistency sometimes observed between the content of the self-assessment report and that of the provided evidence material. They also contribute to the school's internal quality system.

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

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

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

For each evaluation process, the CTI wishes to use data on the school and its engineering programmes. To this end, an extraction of the annual certified data (Datasheets) containing the information uploaded and certified by the school in recent years is produced and made available to the expert panel and to the school. This extraction includes:

- DS1: School's global training offer
- DS2: School's training offer of engineering degree programmes
- DS3: Human resources
- DS4: Socio-economic representatives participating in the teaching
- DS5: Research indicators
- DS6: Innovation and entrepreneurship indicators
- DS7: International partnerships
- DS8: Success rate indicators
- DS9: Student admission streams
- DS10: Analysis of student recruitment
- DS11: Typology of student recruitment
- DS12: Analysis of graduates' professional integration

5. Essential elements of any engineering education and documented achieved competences required for accreditation

The essential elements characterising the graduate engineer are defined. These essential elements can be used as the basis for both the structure of the competence-based approach and the constitution of the skills blocks structuring the sheets published in the RNCP (National Directory for Professional Certifications).

The essential elements of all engineering programmes are listed in chapter D2 below and in the RNCP factsheet on the CTI's website.

6. The school's self-evaluation report

Schools are expected to draw up a self-evaluation report following the structure of these References & Guidelines, for any initial application or renewal of accreditation. 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, the document must not exceed 49 MB.

Everything relating to the curricula 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 general conclusion, the school produces an overall SWOT.

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

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

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

The following abbreviations are used in this document:

- DN (*Dossier numérique*): Digital File of the school
- DS: Datasheets (automatically extracted from the school's annual certified data)
- Tables (*Tableaux*): 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 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 school has an effective identity and an identifiable and visible geographical location. It defines its teaching, research 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 delegation, reflected in an agreement, so that it has on a permanent basis the material means and human resources necessary to carry out its mission (teaching, pedagogy and organisation).

Evidence:

	School’s statutes	DN link
	Contract of objectives with the relevant supervisory ministry (*Contrat d’objectifs et de performance -COP* or *Contrat d’objectifs et de moyens -COM*), (public owned schools and private schools that are holders of the label of public interest 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, social and environmental responsibility, entrepreneurship and digital strategy.

Evidence:

	Strategic note approved by the school's governing body (Administrative Board, School Council, other)	DN link

A.2.1 Social and environmental responsibility

The school has developed a strategy for social 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 social 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 measures to combat gender-based and sexual violence. The school has an appropriate reporting system, including a hotline for acts of violence, discrimination, harassment and gender-based violence, and communicates its existence to students and staff.

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

In terms of environmental responsibility, the school aims to control the environmental impact of its activities: operations, campus, research, digitalization, purchasing, student life, internationalisation... 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 these major challenges facing society.

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

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

Evidence:

	Policy note on Social and Environmental Responsibility, or master plan or certification regarding Sustainable Development and Social and Environmental Responsibility (DDRS)	DN link
	System for reporting acts of violence, discrimination, harassment and sexist behaviour	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 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 meaning of order no. 2018-1131 of 12 December 2018 relating to the experimentation of new forms of alliance, grouping or merger of higher education and research institutions provided for by the law of 22 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 missions and its positioning at regional, national and international level.

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.

The aim of internal communication is 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 skills targeted, 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 displays 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 requested by the CTI and certified by the school management.

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

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

All stakeholders of the school's engineering programmes are represented on the school's management bodies, in particular company representatives, administrative and teaching staff, students and public and/or private institutions.

Evidence:

	Composition of Statutory Boards (Administrative Board or School Council), Development Board, Scientific Advisory Board, possibly Foundation	DN link

A.3.2 Organisation of the school

The school’s organisation 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, 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 research and innovation policy on its own or in cooperation with other institutions.

A.4.1 The school's training offer

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

The school offers engineering degree programmes in initial education -and where appropriate in Continuing education- that are consistent with and complementary to the institution'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.

A.4.2 The school's research policy

The school's engineering programmes are based on its own research and innovation activities, or activities 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[1] 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 conducts among its engineering graduates.

Evidence:

	Publications by the school's teacher-researchers (list of the school's publishing teacher-researchers and number of the publications), if the relevant laboratory is not evaluated by the Hcéres	DN link
	In-house or partner laboratories hosting the school's teacher-researchers	RAE
	Link to the Hcéres evaluation report(s) of the laboratory(ies)	Link site

A.5 Resources and their use

The school's governance bodies ensure that the necessary and appropriate resources are allocated to the school in order to guarantee the quality of the programmes and of 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 project.

The school employs lecturers and teacher-researchers[1] 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 relies on temporary lecturers, in particular from the socio-economic world, to provide specialised or vocational teaching. It ensures that the quality of their teaching is consistent with the objectives of the programmes.

[1] Teacher-researchers are academic staff at the school who hold a doctorate and who devote at least 30% of their full-time to research in an externally-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 peer-reviewed international journals, oral or poster presentations with peer-reviewed proceedings at an international conference, scientific books and other outputs such as patents, software or registered databases.

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

Evidence:

	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 missions and all its activities in the best possible conditions: training facilities, IT resources, equipment for experimental work, multimedia documentation centre, high-tech platforms, etc.

The school offers physical 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 and 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 more accessible to people with disabilities, in particular people with reduced mobility.

Evidence:

	Total area of premises dedicated to the teaching (owned and shared) and per student	DN link

A.5.3 Information 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 members and students.

For both training 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 the fundamental rules of security (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.

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 benefits from a diversified range of financial resources at its disposal to enable it to fulfil 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 training programmes by category of engineering students.

The school draws up a multi-year investment plan.

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

Evidence:

	School’s budget approved by its governing bodies (income and expenses including salaries)	DN link
	The school's operating budget for training programmes (income and expenses), not including research	DN link
	Cost of a training programme per student per year	RAE
	FISA (apprenticeship track): average costs taken into account by the professional sectors and received from the apprenticeship training centres, remaining costs	RAE
	Investment plans (past and future)	DN link
	Financial forecasts for new training programmes or a new campus or major development	DN link

B. THE SCHOOL'S MANAGEMENT

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 of 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 Principles of steering and management

The school's operations are based on an organisation and on management processes that are described, effective, transparent and incorporate the concept of quality. These elements are described in the documents produced by the school, in particular the internal regulations.

Evidence:

	Internal regulations	DN link
	Management system, Enterprise Resource Planning, etc.	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.

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.

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 its stakeholders of this follow-up.

The school has put in place a fully operational system for the evaluation by the students of the teaching received: regular and systematic 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 system (other than CTI)

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

Evidence:

	Existence and results of other evaluation processes: Hcéres, Green Plan or labels such as DD&RS, ISO, Qualiopi, etc.	DN link

B.2.4 Follow-up to the previous 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 duration 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/recommendation for accreditation, the school will spontaneously provide an initial action plan within the specified timeframe.

Evidence:

	Table of recommendations for improvement from the previous evaluation process and actions taken or planned	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 secondary schools in its geographical area, with the aim of encouraging and supporting vocations for engineering education and removing any inhibitions.

These relationships help to develop social diversity and a balance of profiles amongst the student classes.

Evidence:

	Actions to promote diversity	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 it comes to developing training projects, and ensures that its development coincides with anticipated changes in this environment.

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

The school maintains links with companies of all sizes.

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

Evidence:

	Agreements with companies (Chairs, framework programme, industrial research training agreements for doctoral studies (CIFRE), etc.)	DN link

C.3 Innovation and entrepreneurship policy

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

The school takes part in operations to raise awareness of innovation, technology transfer and entrepreneurship, in conjunction with specialised structures and dedicated facilities (PEPITE initiative, incubators, innovation centres, etc.).

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 their impacts.

The school owns or shares appropriate facilities to carry out these activities.

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

Evidence:

	Patents, software licences and registered trademarks	DN link

C.4 Partnerships and national networks

The school keeps abreast of developments and works towards national recognition. It draws up cooperation or relations at national level.

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

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 establishments of equivalent level (including European universities), with the aim of exchanging in the field of training, collaborating in the field of research, establishing industrial partnerships and being supported and recognised (labelling), as well as with a view to mutual improvement and enrichment.

The school is implementing an incentive policy to encourage inward and outward mobility for its lecturers, teacher-researchers, administrative and technical staff.

Partnerships must be established with institutions offering, in the field of engineering, an equivalent degree (master level) recognised by the relevant authorities.

The scientific and academic relationships forged on a European and international scale have an impact on the teaching methods and the training programmes.

With a view to internationalising its programmes and within framework agreements, the school is developing international mobility opportunities for students and staff, double degree and joint programmes[2] , while taking care to control the environmental impact of the mobilities.

The school implements actions to organise and improve the welcoming of international students. It takes for example part in programmes recognised by labels such as "Welcome to France" awarded by Campus France.

The school regularly evaluates current agreements.

Evidence:

	Mobility flows (incoming and outgoing) of teaching staff, administrative and technical staff	DN link
	List and content of international agreements signed by the school	DN link

[2] A joint programme is a programme run by several French or foreign academic institutions, governed by an agreement setting out the structure of the programme; the learning outcomes of the common course units and the students' syllabus; the application of the study regulations ranging from student admission to the graduation; the quality assurance framework. The outcome of a joint programme may be the award of several degrees or one joint degree.

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 (e.g. study regulations, validation rules, internationalisation, language levels, 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 emanating from one or more professional sectors and from society as a whole. The target employment market is regional, national and international. The training project is designed in a participative and cooperative manner involving the school's stakeholders. It includes an opportunity study and an analysis of existing training programmes in the field.

Within the school, a structure for dialogue is organised (e.g. a Development Board) that involves the social and professional environment which represents the trades targeted by the programme. This structure characterises and updates the profiles of the engineers to be trained according to needs, particularly in relation to major transitions. The assessment of future needs for the sectors and/or professions envisaged is carried out regularly 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 recruitment potential.

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 structure.

A dialogue may 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 published in the National Directory for Professional Certifications (RNCP), including objectives, targeted occupations and certified skills in accordance with the format provided by the certifying institution France Compétences (see the thematic fact sheet on the CTI website for guidance)	DN link
	Surveys and/or studies on market needs relating to the training programmes of the school and observed and expected developments	DN link

D.2 Expected programme outcomes

The training must enable the students to develop the skills of an engineer, which implies acquiring the knowledge, know-how, interpersonal skills and aptitudes necessary for their development.

The processes for defining, developing and assessing skills during the training 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 career plan.

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 integrative and contextual way for each degree programme.

The teaching staff and the 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 (skills blocks), listing the conditions for validation and the conditions for achieving the degree; it is consistent with the detailed training plan and the skills approach developed, 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 the resources of one (or more) specific scientific and technical 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; analysis, modelling and design of systems; analysis of the life cycle of a product or service; risk and crisis management; practice of collaborative and distance working
4. the ability to design, implement, test and validate innovative solutions, methods, products, systems and services, with 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 master orders of magnitude by relying on substantiated data, in particular scientific data
6. the ability to find, evaluate and use relevant information: "informational competence"

ADAPTATION TO THE SPECIFIC REQUIREMENTS OF A COMPANY AND SOCIETY:

7. the ability to take account of the company's challenges and to be accountable for its actions: economic dimension; compliance with social and environmental requirements; respect for 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

TAKING ACCOUNT OF THE ORGANISATIONAL, PERSONAL AND CULTURAL DIMENSIONS:

11. the ability to fit into professional life, to integrate into an organisation, to manage it and to help it develop: exercising responsibility, commitment and leadership, project management, the ability to work collaboratively and communicate within diversified and multidisciplinary 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 and the ability to adapt to international contexts and cooperate on collective global issues
14. the ability to know oneself, to assess oneself, to manage one's skills (particularly in a lifelong learning perspective) and to make career choices

D.3 The engineering degree 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 school introduces the first basic notions of Artificial Intelligence (AI) and its tools into the learning content. The training must enable learners to develop a critical approach, particularly with regard to the results of generative AI. As with any tool, they must be encouraged to take a step back and be made aware of the risks of induced errors.

The school also ensures that its students acquire the basic notions of the right reflexes in terms of confidentiality and data protection for all types of media.

The 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 the "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 design 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 study tracks of initial training:

- FISE ("*formation initiale sous statut d'étudiant*"), under student status
- FISA ("*formation initiale sous statut d'apprenti*"), under apprentice status
- 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 engineering title and 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. The syllabus must be available in French and possibly in English for international publication.

For each teaching unit and each component, the syllabus indicates the number of hours of face-to-face teaching, either in the classroom or on-line, 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 teaching unit (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 workload expected. 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 teaching units, semesters and the engineering degree, as well as the measures that can be taken in the event of a teaching unit or semester not being validated, and the procedures for appeals by the students. These regulations are updated annually; they are public and communicated 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 language levels in French and English required for achieving the degree. These arrangements are set out in an "individual inclusion and adaptation contract" (see disability factsheet on the CTI's website). The same applies to students involved in top-level sports or achieving high level results in 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 identical for all tracks in 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>During the last six semesters of the engineering programme, students must complete at least three academic semesters of teaching (apart from the final overall project in a company) in the school, under the active supervision of the school awarding the engineering degree as well as a one-semester final overall project work placement.

One of the 3 academic semesters may be spent in a partner academic institution with which the school has set up a joint programme (see definition in section C5).

The final overall project (S9 or S10) is carried out under the effective supervision of the school (possibly shared with another institution, particularly in the case of a double degree or a joint programme).

The final year of the course can be completed under a vocational training contract, i.e. with a status of an employee. In this case, it is organised in the form of a succession of in-company periods 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 (National Directory for Professional Certification) 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 apprenticeship tracks.</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 a 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 checked during the CTI evaluation.

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 degree 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 degree cycle 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. As a reminder, the CTI's definition of a "company" is a national or international structure, public-owned or private, which carries out a direct or indirect economic activity resulting in the production of goods and/or services.

KEY CRITERIA FOR ON-THE-JOB TRAINING	
Initial training under student status (FISE)	Initial training under apprentice status (FISA)
The aim of work placements for student engineers is to develop the skills set out in the programme curriculum. Internships are rigorously managed; they are defined in accordance with the regulations in force, supervised, and are 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 programme 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 he or she has 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 may be reduced to 14 weeks. The school also promotes work experience placements in small and medium sized companies and start-ups.	Company experience is considered as an essential dimension of the training of engineers. Apprentices spend around half of their six semesters of the engineering degree 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 promotes work placements in small and medium sized companies 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 the 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 programme culminates in the production of a final overall project 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, i.e. between 1/3 and 1/2 of the total number of credits awarded for the whole programme; the remaining credits being obtained during the academic periods. The complementary roles 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.

Initial training as a student in year 1 and as an apprentice in years 2 and 3 (FISEA) of the engineering degree cycle
For the FISEA track, the major criteria for in-company training of the FISA track apply to the last two years of the programme. Apprentices spend around half of their 2nd and 3rd years of training in the form of alternating periods in the school and the company that employs them. The number of credits awarded for periods spent in a 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 programme; the remaining credits being obtained during the academic periods.

D.3.1.b Major criteria for training in and through research

The engineering training includes an assessed exposure to fundamental or applied research for all students. This is carried out by the teacher-researchers on the educational team. This exposure should enable the student engineers to develop inductive reasoning that combines scientific rigour, creativity, the virtues of doubt and the ability to question oneself.

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

Right from the start of the engineering degree 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.

Every 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, lectures, 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 of the programme (specialisation, in-depth pathway, etc.) especially at the end of the curriculum.

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

D.3.1.d Major criteria for training in 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 subjects 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 in the 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 a B1 level in English may be accepted in exceptional cases;
- courses given entirely in English, where a B1 level in French as a foreign language may be accepted in exceptional cases.

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 required level of language proficiency may not be validated more than three years after the end of schooling. For information on language acquisition for learners with certain disabilities, see the factsheets on languages and disabilities on the CTI’s website.

Each student engineer is required to go on an international mobility, either academic or in a company or in a research/innovation laboratory. To organise this mobility, the student-engineer is supported by the school, which draws for instance on its international partnerships. The procedures regarding these mobilities are well detailed (selection mechanisms, preparation for departure, study programmes, administrative and financial assistance, etc.). International students (foreign students who have completed their studies abroad up to and including the first two years in higher education) are considered to be on an international mobility during their stay in France and are therefore considered to fulfil this obligation.

In addition, the school has set up an "internationalisation at home" system, in particular by promoting the presence of international students, who 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 degree cycle. However, it is permissible for part of the mobility to take place during the preparatory cycle in the case of 5 year programmes, provided that the mobility is prepared and supervised by the school of the engineering degree cycle and a feedback is organised at the end of the mobility. This individual international mobility may take the form of an academic period or a work placement in a company or laboratory, and must have a duration of at least 16 weeks and preferably 20 weeks of academic, professional or research activities.	The schools make an international mobility compulsory as part of the engineering degree cycle. In accordance with Law no. 2018-771 of 5 September 2018, this individual international mobility can take place either in a host company or in a host training centre (academic institution). It must have a duration of at least 9 weeks and preferably 12 weeks of academic, professional or research activities. The apprentice's host company in France must be informed of this international mobility obligation before the apprenticeship contract is signed. The parties involved ensure that the regulatory conditions for the international mobility of apprentices are properly implemented.
Initial training as a student in year 1 and as an apprentice in years 2 and 3 (FISEA) of the engineering degree cycle	
The major FISA criteria described above apply strictly to the FISEA.	

Evidence for the whole of §D3.1:

	FISE: Organisation of the curriculum	Table 2
	FISA: Organisation of the curriculum	Table 3
	FISA: Calendar of the alternating periods in school and company	Table 3
	FISA: Apprenticeship centre (CFA) and partner agreement(s), school/company balance, description of in-company activities, apprenticeship booklet	DN link
	Syllabus with objectives, breakdown of teaching methods, learning outcomes and assessment methods	DN link
	Study regulations	DN link
	Model of the degree document and 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 on the basis of the targeted level of development for each skill in the reference framework must remain compatible with a certain 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, etc. are ideal opportunities for the skills assessment (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.).

Evidence :

	Cross-matrix of UEs / targeted skills / learning outcomes	Table 4
	Systems for assessing skills acquired in school, in industry, in research, in ecological transition, in languages, in a multicultural approach	DN link

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 auditoriums, 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 track under student status. It is desirable for apprentices and students to come together during specific periods of study (such as joint projects), without this being systematic or calling into question the specific teaching 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 the courses given during the curriculum in a variety of 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 THE FACE-TO-FACE TEACHING AND STUDENT MONITORING</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 degree 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.
Teaching may be organised on-site or as distance learning, the latter not exceeding 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The workload of a student-engineer (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 degree cycle.
The school verifies the results obtained and provides monitoring and personalised support for the students.</td><td>The volume of supervised training hours (face-to-face teaching) during the six semesters of the engineering degree 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.
Teaching may be organised on-site or as distance learning, the latter not exceeding 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The workload of a student-engineer (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 degree cycle.
The school verifies the results obtained, including those achieved in the workplace, and monitors the students with the apprenticeship training center (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 (FISEA) of the engineering degree cycle</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.
Teaching may be organised on-site or as distance learning, the latter not exceeding 30 per cent calculated over the 6 semesters and 50 per cent calculated over each semester. The workload of a student-engineer (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 degree cycle.
The school verifies the results obtained, including those achieved in the workplace, and monitors the students with the apprenticeship training center (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 on-site & remote teaching	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 staff

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

At each of its campuses, the school ensures that its student engineers are supervised by permanent lecturers and teacher-researchers, making it possible to organise the follow-up and monitoring of the students throughout their studies in good conditions. 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).

The target for courses taught by permanent teacher-researchers from the school (or a partner higher education institution having a teaching agreement with the school) is at least 25% of the scientific and technical courses in the engineering degree cycle for each of the campuses. A ratio of between 20% and 25% must be justified by the significant presence of external academic teacher-researchers from the world of research who teach at least 64 hours per year at the school.

The target for teaching by temporary lecturers from the socio-economic world is 25% of the total engineering degree cycle for each of the campuses. A ratio of less than 20% must be justified by reference to the nature of the programme. In an apprenticeship track (FISA), due to the attendance of the apprentices in companies, the above ratios may be reduced by 5 points.

Evidence:

	Description of the educational team and its qualifications	DN link

D.4 Gap period during the studies

Learners 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 legal 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 laid down by the institution prior to the gap period.

The CTI will check that the international mobility requirements imposed by the school can be met normally, without extending the duration of the programme. In particular, the school must devise a training plan that enables the required work placements and international mobilities to be carried out without a gap period.

During an evaluation process, the CTI may ask how many gap periods have been completed per year, how they have evolved or in what format they have taken place (salaried employment, voluntary work, internships, etc.), and may ensure that they have been completed in compliance with the regulations in force, that the skills validated as part of the programme are defined prior to the gap period and that any credits acquired are in addition to those normally foreseen in the programme.

D.5 Specialised diploma in engineering after graduation

The specialised engineering diploma (“diplôme d’ingénieur de spécialisation”) is obtained at the end of a post-graduate training programme at a six-year level or more. The CTI can award the EUR-ACE® label to such a diploma.

The programme 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 foreign programmes that have been admitted by the State following a CTI evaluation process and programmes that have been awarded the EUR-ACE® label by an agency authorised by ENAEE. In exceptional cases, the school may admit foreign applicants from other programmes, 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 previous programme and the degree and not on the student's file.

In other cases, the specialised engineering programme 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 diploma in engineering but a certificate (institutional diploma).

The programme must meet specific criteria: a minimum duration of two semesters and a maximum of three semesters 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 specialised diploma in engineering is level B2 of the Common European Framework of Reference for Languages (CEFR). In English, however, level C1 is recommended. The assessment combines an internal assessment based on simulations of professional skills and an external assessment based on a test recognised in the professional or academic world. For information on language acquisition for learners with certain disabilities, see the CTI’s factsheet on disabilities.

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

Double degree agreements in France and abroad may be concluded between a school that offers the engineering degree and the school that offers the specialised diploma in engineering, subject to the following provisions: existence of an agreement between the two institutions, skills covered that include those offered in their entirety by the two programmes, award of the degree and the diploma at the earliest after semester 11.

D.6 Engineering degree through Continuing education and Validation of Acquired Experience (VAE)

D.6.1 Continuing education

Continuing education prepares learners for an engineering degree through a training tailored to the needs of each individual which may take several forms: full-time face-to-face programme, part-time training between the engineering school and a company, work-linked training under a sandwich course with a professional training contract or an apprenticeship contract, training outside working hours, training that is partly full-time and partly distance learning. It 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.

The academic duration of a complete Continuing education programme is variable, insofar as learners can benefit from provisions for the validation of prior learning, enabling them to follow an adapted training path. The major criterion relating to international mobility defined for initial training does not apply, but the acquisition of skills enabling the learner to work in an international and multicultural context and to adapt to international cooperations on collective global issues remains.

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.

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 (registered in the National Directory for Professional Certification). 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 individual training path as part of an existing programme under student or apprentice status. The institution must apply for an extension of the existing accreditation, which is based on the same RNCP file and therefore the same description of skills blocks as the existing programme. In this case, the study regulations include provisions specific to Continuing education: admission methods, definition of the training path, procedures for validating the programme, etc.

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.6.2 Validation of Acquired Experience (VAE)

Introduced by the Social Modernisation Act of 2002, and amended by the Decree of 17/12/2023, which established a national platform, Validation of Acquired Experience (VAE) is a means 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, through Continuing education and by State Certification which awards the title of State-Qualified Engineer (“ingénieur diplômé par l’Etat” - IDPE).

The engineering degree remains identical regardless of the route taken. This Validation of Acquired Experience (professional, voluntary, etc.) in relation 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 (National Directory for Professional Certification) 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 and its compliance with the regulations in force; the invoiced cost of the VAE procedure; the monitoring procedure where requested by the applicant; the composition of the VAE jury; the procedures 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 of the school itself or any other specified institution.

The CTI may examine candidates' individual files during the assessment. Compliance with the VAE procedure is one of the major criteria of the evaluation process.

D.7 Multi-campus schools

Schools can set up in a variety of locations, but they must ensure that the quality of the training and the major criteria are met at all locations, whether they are called a site, a campus or any other designation.

Schools with multiple campuses can award the same degree on all their training sites.

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

- a unique or a federated legal structure, explicitly mentioning the campuses where the degree is awarded;
- a single form of governance for all campuses, which may rely locally on campus directors who have the power to organise and oversee property, furniture, teaching, research, human resources and learner management resources, etc. ;
- identical implementation of the school's quality approach on all campuses;
- 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 the R&O criteria at all campuses (teaching/research staff ratio, percentage of teaching given by teaching/research staff and representatives of the socio-economic world, etc.);
- a joint head of studies department for the various campuses;
- equivalent recruitment criteria regardless of the campus, for study tracks or degrees offered at several campuses;
- the uniqueness of the skills reference framework, implying an identical 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, unique admissions and degree awarding juries for study tracks or degrees offered at several campuses ;
- a single signatory for the school’s degrees, regardless of the campus where the training took place.

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

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

E. STUDENT RECRUITMENT

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

E.1 Admission targets and recruitment streams

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 streams form a coherent, balanced and controlled whole. The recruitment criteria for each admission stream are adjusted to the training and employment objectives, particularly in terms of competencies. They are 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 admits are diverse in terms of gender, geographical origin and social background.

For admissions based on prior academic qualifications (French and international students), the admissions process 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. For courses taught entirely in English, international students must demonstrate a minimum level of B1 in English, certified by a test recognised in the academic world.

The school verifies the scope and level of the candidates' previous education, particularly in the basic sciences relevant to the degree. It ensures that the previous training and abilities of the students recruited are sufficient to achieve the objectives of the programme and to be awarded the degree. Where appropriate, the school will, from the integration period onwards, provide adapted support and additional teaching to ensure the success of all students.

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

<table>
<tr><th colspan="2">ADMISSION OF ENGINEERING DEGREE STUDENTS</th></tr>
<tr><td>Initial training under student status (FISE)</td><td>Initial training under apprentice status (FISA)</td></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 admitted after a selection procedure based on a portfolio, possibly with additional tests at various levels:
* Recruitment in semester 5 of candidates with a level 6 bachelor's degree -a general bachelor's degree (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).
Exceptionally, admission for excellent candidates with a vocational degree -a University of Technology 2-year diploma (DUT), a Specialised Technician diploma (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, a few 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) is possible for applicants who have completed the first year of a master's degree (M1) in a scientific field or for candidates who hold a foreign degree equivalent to 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 would be 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 vocational bachelor’s degree -a University of Technology 2-year diploma (DUT), a Specialised Technician diploma (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.
* Admission is also possible for students from preparatory classes or the integrated preparatory cycle.
* Admissions are possible in semester 7 (beginning of the second year of the apprenticeship track) for engineering students who have completed semesters 5 and 6 of an engineering degree programme 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 of the initial enrolment for the relevant programme.</td></tr>
<tr><td colspan="2">Initial training as a student in year 1 and as an apprentice in years 2 and 3 (FISEA) of the engineering degree cycle</td></tr>
<tr><td colspan="2">Admission takes place mainly in the 1st year of the programme (semester 5) <u>through a dedicated recruitment process</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 of 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 vocational bachelor’s degree -a University of Technology 2-year diploma (DUT), a Specialised Technician diploma (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.

Admissions are possible in Semester 7 (start of the apprenticeship track) for student engineers who have completed semesters 5 and 6 of an engineering degree programme under student status 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 of the initial enrolment for the relevant programme.</td></tr>
</table>

Evidence:

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

E.2 Monitoring of recruitment results

The school monitors and analyses the results of past recruitments and defines an evolving action plan which ensures on one hand that its recruitment strategy is consistent with its training and employment strategy and on the other hand that gender and social diversity are reinforced in its recruitments.

Evidence (data largely taken from the school's annual certified data):

	Selectivity (by programme)	DN link
	Recruitments for Continuing Education and Validation of Acquired Experience (VAE)	DN link
	Geographical origin of students	DN link
	Parents' professions and socio-professional categories	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 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 issues.

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 targeted resources and suitable 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 devices, actions and follow-up measures are implemented with the 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, which can take a variety of forms.

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 enrol for further 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 the digital and environmental transitions. The school promotes the setting up of innovative activities and companies and provides support for the student engineers concerned. The professional integration of students with disabilities is anticipated.

G.2 Results of the professional integration

The school has taken steps to keep abreast of and assess the future of careers and employment in the relevant sectors and areas. 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 gendered data, particularly in terms of professional sectors of activity, responsibilities exercised, skills required 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 degree.

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 track of 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

	Standard survey by the *Conférence des Grandes Écoles* (CGE), response rate and results by programme and gender	DN link

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