ASIIN Seal & EUR-ACE® Label

Accreditation Report

National Engineering Diplomas
Computer Science
Embedded Electronics and Telecommunications
Mechatronics

Provided by
ESPRIM: Ecole Supérieure Privée D'ingénieur de Monastir

Version: 26 June 2026

Table of Content

A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Diplome national d'ingénieur en genie informatique	National Engineering Degree in Computer Science	ASIIN, EUR-ACE® Label	/	04
Diplôme national d'ingénieur en génie électrique: électronique embarquée et télécoms	National Engineering Degree in Embedded Electronics and Telecommunications	ASIIN, EUR-ACE® Label	/	02
Diplôme national d'ingénieur en génie mécatronique	National Engineering degree in Mechatronics	ASIIN, EUR-ACE® Label	/	01, 02
Date of the contract: 07.05.2025 **Submission of the final version of the self-assessment report:** 02.10.2025 **Date of the onsite visit:** 28.-29.01.2026 **at: Monastir**				
Expert panel: Prof. Dr.-Ing. Dirk Nissing, Rhine-Waal University of Applied Sciences Prof. Dr.-Ing Moustafa Nawito, IU International University/Polymath Analog Prof. Dr.-Ing. Dietrich Paulus, University of Koblenz Prof. Dr. Ing. Narjès Bellamine Ben Saoud, Ecole Nationale des Sciences de l'Informatique (ENSI)				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes

[2] TC: Technical Committee for the following subject areas: TC 01 - Mechanical Engineering/Process Engineering; TC 02 - Electrical Engineering/Information Technology; TC 04 - Informatics/Computer Science.

Ernst Blank, Siemens AG Mohamed Anis Oueslati, student at Ecole Nationale des Sciences de l'Informatique (ENSI)	
Representative of the ASIIN headquarter: Paulina Petracenko	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 7, 2021 Subject-Specific Criteria of Technical Committee 01 – Mechanical Engineering/Process Engineering as of March 21, 2021 Subject-Specific Criteria Technical Committee 02 – Electrical Engineering/Information Technology as of September 23, 2022 Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of March 29, 2018	

B Accreditation Status

Result Overview

The most recent decision for the ASIIN Seal was made by the ASIIN Accreditation Commission on 26.06.2026.

Degree Programmes	ASIIN Seal	Validity	EUR-ACE® Label	Validity
NED Computer Science	Suspended	/	Suspended	/
NED Embedded Electronics and Telecommunications	Suspended	/	Suspended	/
NED Mechatronics	Suspended	/	Suspended	/

Fulfilment of the Accreditation Criteria

ASIIN General Criteria / Subject-Specific Criteria	NED Computer Science	NED Embedded Electronics and Telecommunications	NED Mechatronics
1 Degree programme: Concept, Content & Implementation			
1.1 Objectives and learning outcomes (intended qualification profile)	Fulfilled	Fulfilled	Fulfilled
1.2 Title of the degree programme	Fulfilled	Fulfilled	Fulfilled
1.3 Curriculum	**Not fulfilled** **Prerequisite V1**	**Not fulfilled** **Prerequisite V1**	**Not fulfilled** **Prerequisite V1**
1.4 Admission requirements	Fulfilled	Fulfilled	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	NED Computer Science	NED Embedded Electronics and Telecommunications	NED Mechatronics
1.5 Workload and credits	**Not fulfilled** **Requirements A1, A2**	**Not fulfilled** **Requirements A1, A2**	**Not fulfilled** **Requirements A1, A2**
1.6 Didactics and teaching methodology	**Not fulfilled** **Requirement A3**	**Not fulfilled** **Requirement A3**	**Not fulfilled** **Requirement A3**
2 Exams: System, Concept and Organisation			
2 Exams: System, Concept and Organisation	**Not fulfilled** **Prerequisite V2** **Requirement A4**	**Not fulfilled** **Prerequisite V2** **Requirement A4**	**Not fulfilled** **Prerequisite V2** **Requirement A4**
3 Resources			
3.1 Staff and staff development	**Not fulfilled** **Requirement A5**	**Not fulfilled** **Requirement A5**	**Not fulfilled** **Requirement A5**
3.2 Student support and student services	Fulfilled	Fulfilled	Fulfilled
3.3 Funds and equipment	**Not fulfilled** **Requirement A6**	**Not fulfilled** **Requirement A6**	**Not fulfilled** **Requirement A6**
4 Transparency and Documentation			
4.1 Module descriptions	**Not fulfilled** **Requirement A7**	**Not fulfilled** **Requirement A7**	**Not fulfilled** **Requirement A7**
4.2 Diploma and Diploma Supplement	Fulfilled	Fulfilled	Fulfilled
4.3 Relevant rules	**Not fulfilled** **Requirement A4**	**Not fulfilled** **Requirement A4**	**Not fulfilled** **Requirement A4**
5 Quality Management: Quality Assessment and Development			

ASIIN General Criteria / Subject-Specific Criteria	NED Computer Science	NED Embedded Electronics and Telecommunications	NED Mechatronics
5 Quality Management: Quality Assessment and Development	Fulfilled	Fulfilled	Fulfilled

Prerequisites

For all programmes

V 1. (ASIIN 1.3, 1.6) Ensure alignment of the curriculum with EQF Level 7, in particular by increasing the depth and breadth of advanced content and reinforcing research-oriented as well as scientific components.

V 2. (ASIIN 2) Ensure that student reports as well as theses comply with academic and scientific standards, and with EQF level 7 in particular.

Requirements

For all programmes

A 1. (ASIIN 1.5) Establish a systematic monitoring of the students' workload.

A 2. (ASIIN 1.5) Verify the credits awarded to the internships and ensure that the credits align with the actual workload.

A 3. (ASIIN 1.6) Ensure that students are systematically trained in scientific working methods and independent academic work.

A 4. (ASIIN 2, 4.3) Establish comprehensive examination regulations and guidelines that clearly define the rights and duties of both ESPRIM and the students, particularly with regard to the final project. Afterwards, make sure that the regulations and guidelines are accessible to students and stakeholders.

A 5. (ASIIN 3.1) Establish and implement measures to strengthen the research activity and academic development of teaching staff and ensure that these activities are reflected in teaching content, supervision, and the development of students' scientific competences.

A 6. (ASIIN 3.3) Establish an adequately equipped library that provides structured and independent access for students and teaching staff to current academic literature, as well as to relevant scientific databases such as IEEE, ACM and Springer.

A 7. (ASIIN 4.1) Ensure that all module descriptions are comprehensively revised, standardized, and made accessible to students. This includes consistent module titles across documents, complete module information, accurate references to scientific sources, the inclusion of module description for the final thesis, and an overall uniform format and level of detail across all modules.

Accreditation History

The programmes have not been previously accredited by ASIIN.

C Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Computer Science	National Engineering Degree	- Web and Mobile Development - Data Science & Artificial Intelligence	7	Full time	/	6 Semester	180 ECTS	2017
Embedded Electronics and Telecommunications	National Engineering Degree		7	Full time	/	6 Semester	180 ECTS	2017
Mechatronics	National Engineering Degree		7	Full time	/	6 Semester	180 ECTS	2017

Overview of ESPRIM (Monastir)

The École Supérieure Privée d'Ingénieurs de Monastir (ESPRIM) is a private higher education institution located in Monastir, Tunisia, founded in 2014. It is accredited by the Tunisian Ministry of Higher Education and Scientific Research and offers state-recognized engineering programs designed to prepare graduates for professional practice. ESPRIM is a relatively small institution with a total student population of 524, distributed across the preparatory cycle (181 students) and the engineering programmes (343 students).

The institution follows the French engineering education model, structured into two main phases: a preparatory cycle and a specialized engineering cycle. The preparatory cycle spans four semesters and follows national curricula comparable to those of public preparatory institutions. It provides students with a solid foundation in mathematics, physics, and technology, preparing them for entry into engineering studies.

ESPRIM offers three preparatory tracks:

- Mathematics–Physics
- Physics–Chemistry

[3] EQF = The European Qualifications Framework for lifelong learning

- Technology

At the engineering level, ESPRIM offers specializations in the fields of Computer Science and Engineering, including Electrical Engineering, Mechatronics, and Industrial Engineering.

In 2023, the institution was integrated into the ESPRIT Group, a major higher education network in Tunisia. The group comprises several institutions covering engineering, business, preparatory education, and continuing education, and serves more than 14,000 students. It is internationally recognized, notably through EUR-ACE accreditation (2017) and its membership in academic networks such as CDIO and the Conférence des Grandes Écoles.

Summaries of the Study Programmes

For the National Engineering Diploma degree programme Computer Science, the institution has provided the following information in the self-assessment report:

The Computer Science degree is a three-year, 180 ECTS programme that aims to provide a solid grounding in core computing alongside advanced digital technologies. The curriculum covers fundamental areas such as programming, algorithms, and data structures, and progressively introduces advanced topics including artificial intelligence, data science, cloud computing, and software engineering. The programme places a strong emphasis on project-based learning and industry relevance. In the second year of studies, students can choose between two tracks: “Web and Mobile Development” and “Data Science & Artificial Intelligence”. The programme includes several internships and culminates in a final-year project.

For the National Engineering Diploma degree programme Embedded Electronics and Telecommunications, the institution has provided the following information in the self-assessment report:

The National Engineering Degree in Embedded Electronics and Telecommunications is likewise a three-year, 180 ECTS programme that combines electronics, embedded systems, and modern communication technologies. Its core focus lies in the convergence of embedded systems and telecommunications, preparing graduates to design and manage interconnected, intelligent systems. The curriculum includes key areas such as real-time systems, signal processing, IoT architectures, and advanced communication technologies including 5G and low-power networks. Emerging topics such as edge artificial intelligence and cyber-physical systems are also incorporated. A strong practical orientation is ensured through laboratory work, project-based learning, and mandatory internships, including a final engineering project.

For the National Engineering Diploma degree programme Mechatronics, the institution has provided the following information in the self-assessment report:

The National Engineering Degree in Mechatronics is a three-year interdisciplinary programme (180 ECTS) that integrates mechanical engineering, electronics, and computer-based systems. It is designed to train engineers capable of developing and managing complex automated and intelligent systems, particularly in areas such as robotics, industrial automation, and smart manufacturing. The curriculum combines theoretical foundations with practical applications in system modelling, control engineering, embedded systems, and automation, while also addressing sustainability, safety, and ethical considerations. The programme is structured to ensure a gradual development of competencies, moving from fundamental knowledge to system-level integration and advanced applications. Interdisciplinary projects, elective modules, and internships are integral components, culminating in a final-year engineering project that consolidates technical and transversal skills.

Summary of the Expert's Assessment

The experts' overall assessment of the three programmes at ESPRIM highlights a number of positive features while at the same time revealing substantial structural shortcomings that affect the academic level and alignment with international standards.

In terms of ESPRIM's strength, they particularly point out the high level of motivation and engagement demonstrated by both students and teaching staff. Students show strong commitment and enthusiasm for their field of study, while teachers and management are perceived as dedicated and supportive. The learning environment is characterised by close interaction between students and permanent staff, and the provision of support services—including academic and psychological support—is viewed positively. Furthermore, the experts acknowledge the strong links with industry and the emphasis on developing practical and soft skills

At the same time, the experts identify fundamental issues indicating that the programmes do not correspond to EQF Level 7. A central concern relates to the insufficient academic depth of the curricula. Across all three programmes, the content includes a considerable proportion of introductory and intermediate-level material, and while a wide range of topics is covered, this is often done without the level of depth and specialisation expected at Master's level.

Closely linked to this is a second central issue: the limited integration of scientific and research-oriented components throughout the programmes. While the curricula are strongly oriented towards application and industry needs - which the experts recognise as a valua-

ble feature - this orientation is not adequately balanced by research-based learning and the application of scientific methodology. This imbalance becomes particularly evident in project work and, most critically, in the final year projects (PFE), which the experts find to resemble practice-oriented project reports rather than scientific theses.

The experts emphasise that these shortcomings are interrelated and reflect broader structural conditions. Limited institutional access to scientific literature and databases significantly constrains students' ability to conduct independent academic research. At the same time, the low level of research activity among teaching staff and the little integration of research into teaching reduce opportunities for students to develop academic and scientific competences. Taken together, these factors contribute to a learning environment that is predominantly oriented towards professional and technical training, with insufficient emphasis on academic and scientific development as expected in a Master's programme.

These observations are also linked to the available infrastructure. While the laboratories provide a basic foundation for practical training, the equipment and facilities would benefit from further modernisation. In particular, the absence of an adequately equipped library and the lack of institutional access to major academic databases are identified as key obstacles to achieving the desired academic level.

Beyond these core academic aspects, the experts identify several areas where formal structures and documentation require further development. This includes the absence of comprehensive examination regulations, missing information in the Diploma Supplements, shortcomings in the standardisation and completeness of module descriptions, the need for systematic monitoring of student workload, and the verification of credit allocation for internships.

In conclusion, the experts acknowledge that the programmes provide a practice-oriented education that is well aligned with the needs of the local industry. However, in their current form, they do not meet the international academic requirements of a Master's programme at EQF Level 7. Addressing the identified issues will require substantial efforts, especially with regard to increasing academic depth, strengthening research orientation, enhancing the academic development of teaching staff, and ensuring systematic access to scientific resources.

D Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Objective-module-matrices
- Programme Handbooks
- Self-Assessment Report
- Study plans
- Module descriptions
- Website: https://www.esprit.tn/groupe-esprit/esprit-monastir-esprim/
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The experts refer to the Subject-Specific Criteria (SSC) of the Technical Committees Computer Science, Electrical Engineering/Information Technology, and Mechanical Engineering/Process Engineering as a basis for judging whether the intended learning outcomes of the three programmes correspond with the competences as outlined by the SSCs.

The experts note that the programme learning outcomes can be found on the websites of the three study programmes, in the respective Study Programme Handbook and Diploma Supplement as well as in the Self-Assessment Report. In addition, ESPRIM has provided the experts with an objective-module-matrix for each programme. The experts confirm that the intended learning outcomes are transparently anchored and published and thus are available to students, lecturers and interested third parties.

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

The Study Programme Handbook contains brief summaries of the programmes' objectives, which are outlined below. The full intended learning outcomes and objectives can be found in the appendix of this report.

NED Computer Science: ESPRIM's "goal is to train expert engineers in computer engineering, capable of designing and developing innovative, intelligent and high-performance solutions in the fields of Web and Mobile Development as well as Data Science and Artificial Intelligence. ESPRIM's graduates are prepared to meet the technical and ethical challenges related to digital transformation, intelligent systems and advanced technological applications.

The Computer Engineering program at ESPRIT Monastir offers you cutting-edge training to become a key player in this revolution. ESPRIM trains creative, innovative and adaptable engineers who can design, develop and deploy complex and intelligent IT solutions."

NED Embedded Electronics and Telecommunications: ESPRIM's "goal is to train engineers who are experts in embedded systems and telecommunications, capable of designing smart, secure and sustainable solutions that meet the challenges of Industry 4.0, IoT and next-generation networks**."**

NED Mechatronics: ESPRIM's goal is to "train multidisciplinary engineers, experts in mechatronics, capable of designing, integrating and controlling intelligent systems combining mechanics, electronics, embedded computing and automation. These engineers are set to become key players in Industry 4.0, advanced robotics, intelligent systems and industrial connected objects.

The experts review the intended learning outcomes and objectives of the three programmes and confirm that, in principle, their level corresponds to EQF Level 7. They are also in line with the ASIIN Subject-Specific Criteria (SSC) of the Technical Committees for Computer Science, Electrical Engineering/Information Technology, and Mechanical Engineering/Process Engineering. However, as discussed in more detail in Chapter 1.3, the experts note a misalignment between the intended learning outcomes and the actual curriculum design. While the programme objectives appropriately reflect advanced competencies, the curricula do not ensure that these competencies are systematically developed and achieved. In particular, the level of the content delivered in the modules is not consistently at an advanced level comparable to Master's programmes and therefore does not fully meet EQF Level 7 requirements. As a result, the intended learning outcomes are not sufficiently supported by the curricula.

Since ESPRIM also applied for the EUR-ACE® label for the three programmes, the experts assess whether the intended learning outcomes are aligned with the EUR-ACE® Framework

Standards and Guidelines (EAFSG), which define seven core competence areas: knowledge and understanding, engineering analysis, engineering design, investigations, engineering practice, making judgements, communication and teamwork, and lifelong learning. The self-assessment report and the defined learning outcomes indicate that all required competence areas are formally addressed. However, the analysis of module descriptions and samples of examinations, final theses, and other student work reveals that these competencies are not consistently acquired or assessed in practice. Consequently, the programmes are currently not fully aligned with the EUR-ACE® Framework Standards and Guidelines.

The experts concur that the programmes' design resembles higher-level technical training more than academic training at EQF level 7. They acknowledge that the programmes are very practical, considering the inclusion of many project-based activities. The experts therefore gain the impression that the programmes are tailored to match the needs of the local industry rather than focusing on international academic standards. The audit discussions with the industry representatives confirm this impression. The representatives state that they are very satisfied with the graduates and their qualifications, which meet their demands. They particularly praise the soft skills of the students/graduates. From discussions with industry representatives and ESPRIM members, the experts can also see that ESPRIM has a close relationship with industry, sending students regularly to company events such as hackathons, internships and other projects. The experts value these strong industry links and the employability of graduates. However, they note that the resulting competence profile, as currently supported by the curricula, does not correspond to the Master's level qualification or EQF Level 7. In order to achieve this level, the experts consider it necessary to significantly strengthen the depth of advanced subject content as well as the scientific and research-oriented components across all three programmes. While maintaining the application-oriented approach, greater balance with research-based learning is required.

With regard to the review of intended learning outcomes and programme objectives, the experts note that these are subject to a regular annual review process. This process incorporates input from students and academic staff, feedback from industry partners, analysis of student performance data, and consideration of evolving educational standards. In addition, the IT department organizes annual review workshops to evaluate competencies, update curricula, and revise module descriptions. The experts welcome the existence of this structured review process. However, as noted above, it remains essential to ensure that the curricula are consistently aligned with and effectively implement the defined learning outcomes and objectives.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report
- Diploma Supplements
- Programme Handbooks

Preliminary assessment and analysis of the experts:
The degree programmes are taught in French, which is matched by the French name of the degree programmes “Ingénieur en genie informatique”, “Ingénieur en génie électrique: électronique embarquée et télécoms”, “Ingénieur en génie mécatronique”. The experts verify that the French and English versions of the titles are used consistently across all documents.

The experts confirm that the titles of the programmes in Mechatronics and Embedded Electronics and Telecommunications correspond to their intended objectives, learning outcomes, and curricular content. In the case of the Computer Science programme, the experts find that the title generally reflects the content but does not fully align with it. They note that a programme titled “Computer Science” is typically expected to cover a broad spectrum of the discipline. However, the curriculum under review has a strong focus on Web and Data Science. The experts therefore suggest that the institution reconsider the programme title in order to better reflect this specialization. Alternatively, if the intention is to maintain the broader title of “Computer Science,” the curriculum should be expanded to include additional subject areas that are commonly associated with the field, such as computability, applied computer science, computer vision, graphics, and further theoretical foundations of computer science. During the discussions, the programme coordinators explained that in a Computer Science programme approximately 70% of the curriculum content is defined by the ministry, while 30% can be determined by the institution. The experts acknowledge this framework; however, they recommend making greater use of the available flexibility to strengthen alignment between the programme title and its content. As an alternative, adjusting the programme title accordingly should be considered.

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Study plans
- Objective-module-matrices
- Programme Handbooks

- Internal regulations
- Module descriptions
- Overview of students' mobility
- Discussions during the audit

Preliminary assessment and analysis of the experts:
Content & Structure

According to the self-assessment report, the engineering curriculum at ESPRIM follows the structure of the French educational system, consisting of two distinct phases. The first phase includes two years of preparatory studies (Classes Préparatoires), focusing on fundamental scientific and technical knowledge. The second phase comprises three years of specialised engineering education (Cycle Ingénieur), during which students deepen their technical expertise, gain professional experience through internships and undertake a capstone project. ESPRIM offers three specialised tracks within the preparatory cycle, all of which follow the official curricula of public institutions: Mathematics-Physics (MP), Physics-Chemistry (PC) and Technology (Techno). After completing the Preparatory Cycle, students are eligible to enrol on the Engineering Degree Programme if they achieve an average grade of at least 10 out of 20, in accordance with national academic regulations. The three-year engineering cycle leads to the award of the National Engineering Diploma. The full five-year programme corresponds to a total workload of 300 ECTS credits, with 180 ECTS allocated to the engineering cycle.

In the self-assessment report, the institution provides descriptions of programme learning outcomes and illustrates their linkage to individual modules through curriculum mappings and module descriptions. The programmes include several forms of practical training. In addition to laboratory work and project-based modules integrated into the curriculum, students are required to complete internships during their studies. A final engineering project (Projet de Fin d'Études, PFE) is carried out in the last semester.

<u>Computer Science Programme</u>

The Computer Science Engineering programme is structured over six semesters. In the initial phase, students acquire fundamental knowledge in programming, algorithms, and core areas of computer science. These foundations are expanded in subsequent semesters through modules in areas such as software development, data processing, and distributed systems. Modules offered in the later semesters cover topics such as cloud computing, machine learning, and modern software engineering approaches. In addition to technical content, the curriculum includes modules addressing transversal competencies, including communication skills, digital ethics, and sustainability.

From the second year onwards, students choose between two predefined specialization tracks. One track focuses primarily on software and system development, while the other emphasizes analytical and mathematical aspects, including statistics and data analysis. Both tracks comprise a total of 33.5 ECTS each. During the audit, the experts discover that, a few months prior to the on-site visit, a third track had been added to the programme, focusing on cloud and cybersecurity.

Embedded Electronics and Telecommunications Engineering Programme

The Embedded Electronics and Telecommunications programme is also organized over six semesters and has undergone a comprehensive curriculum revision in the 2024–2025 academic year. The revised structure aims, according to ESPRIM, to align module content with defined programme learning outcomes and to reflect current developments in the field.

The first year focuses on fundamental knowledge in mathematics, electronics, programming, and signal processing. In the subsequent semesters, students engage with the core topics in the relevant field, including embedded systems, communication technologies, and networked systems. The curriculum incorporates areas such as real-time systems, Internet of Things (IoT) applications, and modern communication standards.

Practical elements are embedded throughout the programme in the form of laboratory work, projects and application-oriented modules. Furthermore, each of the three programmes includes three internship components, which are completed over the course of the programmes. More information on this can be found later in this chapter.

Mechatronics Engineering Programme

The Mechatronics Engineering programme combines elements of mechanical engineering, electronics, and computer-based systems within a six-semester structure. The curriculum is designed to provide students with interdisciplinary knowledge and to support the integration of different engineering domains.

In the initial semesters, students acquire fundamental knowledge in mechanics, electronics, and programming. This is followed by modules focusing on system integration, control engineering, and embedded systems. In the later stages of the programme, students engage with more advanced topics such as automation and robotics. The curriculum includes integrated projects at different stages of the programme, which are intended to support the application of theoretical knowledge in practical contexts. The programme concludes with a final engineering project (PFE), in which students work on a defined engineering problem and apply the competencies acquired during their studies.

Assessment of the Experts

Based on the analysis of the curricula, module descriptions, and supporting documentation, the experts conclude that the three programmes under review exhibit substantial structural and conceptual deficits. These deficits result in a lack of alignment with the requirements of EQF Level 7, the Subject-Specific Criteria of the relevant Technical Committees (Mechanical/Process Engineering, Electrical Engineering/Information Technology, and Computer Science), as well as the competence expectations defined by the EUR-ACE® Framework Standards and Guidelines (EAFSG), as already outlined in Chapter 1.1.

Across all three programmes, the experts observe that a considerable proportion of the curriculum is devoted to introductory and intermediate-level content. While individual modules address topics that are, in principle, associated with advanced study, the actual depth and level of treatment, as reflected in the module descriptions, frequently remain limited. This becomes particularly evident when analysing the module structure and module descriptions. The experts note that the programmes consist of a high number of modules with relatively small workloads, while at the same time covering a wide range of topics. Based on the documents and the discussions with programme coordinators and teaching staff, the experts conclude that this structure leads to a rather superficial treatment of content, without achieving the depth required at EQF Level 7. As a result, the programmes do not consistently reflect the level of academic and subject-specific depth expected at Master's level. By way of example, the experts refer to the module "Blockchain" in the Embedded Electronics and Telecommunications programme. While the topic itself is advanced, the actual content covered remains superficial and does not correspond to EQF Level 7. Furthermore, the experts observe that the curricula in several instances appear as a collection of individual modules rather than as a coherently structured sequence that systematically builds advanced competencies. This impression is reinforced by inconsistencies in module titles and descriptions across different documents, which further reduce transparency and coherence.

During the audit discussions, the experts gain the impression that the limited depth of the curricula is partly influenced by the entry qualifications of the students. Programme coordinators explain that students entering the engineering cycle often lack sufficient subject-specific prior knowledge, as the preparatory cycle focuses primarily on mathematics, physics, and basic sciences, with only limited exposure to the respective engineering disciplines. As a consequence, parts of the engineering curricula are used to cover fundamental content, which further constrains the possibility of achieving an advanced level of specialization within the given timeframe. From the experts' perspective, this indicates that students do not enter the programmes with the prerequisites typically expected for Master's level studies.

In addition to the limited depth of subject-specific content, the experts identify a lack of scientific and research-oriented components across all three programmes. Although the curricula include numerous projects and application-oriented elements, these are predominantly focused on implementation rather than on the application of scientific methods or engagement with current research. This observation is also reflected in the literature referenced in the module descriptions, which does not consistently demonstrate the use of advanced scientific sources, neither in terms of quality nor citation standards. The experts emphasize that teaching at Master's level requires a clear integration of scientific methodology and engagement with the state of the art in the respective disciplines.

These deficits are also evident in the student work reviewed by the experts. While examinations appear to assess technical knowledge appropriately, the final year projects (PFE) and other project-based work do not consistently demonstrate the level of scientific rigor expected at EQF Level 7. In many cases, the work is primarily descriptive or application-oriented, with limited evidence of systematic research, critical analysis, or methodological reflection. In the view of the experts, this indicates that the programmes do not sufficiently develop the competences required for independent scientific work.

In particular, the experts note that the final year projects predominantly reference textbooks and general introductory literature, while peer-reviewed journal articles, conference proceedings, and other primary scientific sources reflecting the current state of research are largely absent.

Furthermore, the experts remark that the Embedded Electronics, Telecommunications and Mechatronics programmes surprisingly do not include elective modules. The programme coordinators explain that this is due to the relatively small cohort sizes, which range from an average of around 10 students in Mechatronics to approximately 40 students in Computer Science. While acknowledging the challenges associated with small cohorts, the experts nevertheless recommend exploring the possibility of introducing elective components, as these would enable students to personalise their studies and develop more specialised profiles.

In summary, the experts conclude that the programmes are strongly oriented towards practical and application-based training and are closely aligned with the needs of industry (see also Chapter 1.1). The significant number of projects and practical elements is acknowledged as a positive feature. However, this orientation is not sufficiently balanced by theoretical depth and research-based learning. As a result, the overall competence profile supported by the curricula corresponds more closely to professionally oriented training than to an academic qualification at Master's level. Therefore, while the application-oriented approach and the integration of projects are welcome, the experts emphasize that

it remains essential to ensure that both project work and module content are delivered at an advanced level and demonstrate adequate scientific rigor in line with EQF Level 7.

Against this background, the experts express serious concerns regarding the extent of the identified shortcomings. They emphasize that the necessary improvements concern fundamental aspects of curriculum design, including the structure, academic level, and scientific orientation of the programmes. The experts therefore urge ESPRIM to undertake substantial revisions, in particular by increasing the depth and breadth of advanced content and by significantly strengthening scientific and research-oriented components, in order to ensure alignment with EQF Level 7 and internationally accepted academic standards.

As a starting point, the experts encourage ESPRIM to critically review the overall module structure, with the aim of reducing the number of modules, increasing the workload and depth per module, and embedding explicit research methodology and scientific writing components as integral elements of the curriculum.

Internships

The three engineering programmes comprise three mandatory internship phases. The first internship, referred to as the Professional Immersion Internship, takes place after the second semester. It has a duration of at least four weeks and may be extended to up to eight weeks. This internship is assigned 3 ECTS credits. The evaluation is conducted in the following semester and includes a presentation of the internship work before an academic jury.

The second internship, the Engineering Internship, is scheduled after the fourth semester and also has a duration of four to eight weeks. It is credited with 5 ECTS. Similar to the first internship, students present their work afterwards in a dedicated evaluation session before a jury, and the results are documented and processed by the institutional internship service.

The third component is the Final Year Project (Projet de Fin d'Études, PFE), which is carried out in the sixth semester. This phase is organized as a full-semester internship with a minimum duration of 16 weeks and corresponds to 30 ECTS credits. The PFE may be conducted either in cooperation with an industrial partner or within a research environment. Each student is supervised jointly by an academic advisor and a mentor from the host organization.

The assessment of the internship phases is based on several elements. These include a written technical report, a logbook documenting the activities carried out during the internship, and an oral presentation before a jury composed of academic staff. In the case of the final year project, the evaluation also includes elements of continuous assessment,

such as progress monitoring and feedback from the host organization, as well as a final report and defence.

The organization, documentation, and evaluation of internships are supported by institutional procedures and are coordinated by the internship service, which is responsible for the collection and archiving of evaluation materials.

The experts confirm that the three internships are well-integrated into the curriculum and that ESPRIM assumes responsibility for the quality of the internships in terms of their content and structure. Based on feedback from students and industry representatives, the experts acknowledge that students are included in projects carried out at the respective companies. They conclude that the internships effectively enable students to apply the knowledge gained in the modules, and they are pleased to learn that both students and industry partners are highly satisfied with the internship system. However, as previously mentioned, the experts point out that the extensive practical orientation of the programmes should not come at the expense of the theoretical depth and scope of the programme content, and that ESPRIM should therefore increase the scope of scientific components, as well as raising the level of subject-specific content. Furthermore, the experts note discrepancies in the credit calculation for internships, as the Professional Immersion and Engineering internships have the same duration but are awarded different numbers of credits. This will be discussed in more detail in Chapter 1.5.

Student mobility

The experts learn during the audit that international student mobility at ESPRIM is currently in the process of being further developed and institutionalized. The institution has recently established formal partnerships with international higher education institutions to facilitate outgoing mobility and potential dual-degree opportunities. A central element of these efforts is a cooperation agreement concluded in 2025 with Polytech Dijon. This partnership provides students with mobility pathways, including the possibility to spend one academic year abroad in the final phase of their studies or to participate in a dual-degree track extending over two years. The mobility options are designed to be integrated into the later stages of the engineering cycle and are coordinated by ESPRIM's International Office. So far, six students from the three programmes have been admitted to the partnership programme with Polytech Dijon.

In addition to this cooperation, the institution reports further initiatives to expand internationalization activities. These include the development of partnerships with additional institutions, such as Hochschule Esslingen, as well as participation in wider academic networks.

In terms of the process for recognising credits obtained abroad, the experts learned that this is defined by institutional processes and the Learning Agreement. This document is signed by three parties prior to the student's mobility: the student themselves, ESPRIM, and the receiving university.

During their discussion with the experts, the students confirm that there are opportunities for international mobility. The experts appreciate these efforts and encourage ESPRIM to continue promoting international mobility. However, they also identify a greater need for international exchange opportunities for both incoming and outgoing students. During the audit discussions, the students express a clear interest in going abroad for an exchange programme. However, the biggest challenge for them is their limited financial means, since they have to cover all the costs of an exchange programme themselves. Therefore, the experts recommend increasing efforts to further internationalise ESPRIM by establishing more international collaborations, for example for internships, conferences, publications and exchange programmes, as well as by providing scholarships to students.

Periodic Review of the Curriculum

According to the self-assessment report, the curricula of all three engineering programmes are subject to regular review within the framework of the institution’s internal quality assurance processes. The review is conducted on an annual basis, typically at the end of the academic year, and is coordinated by the respective academic or programme committees. The review process involves multiple stakeholder groups, including academic staff, student representatives, and external partners from industry. It is based on the analysis of various sources of information, such as student feedback, academic performance data, internship experiences, and outcomes of final year projects. In addition, developments in professional practice and labour market requirements are considered in order to maintain the relevance of the programmes. The outcomes of the review process are documented and submitted to the institutional bodies responsible for validation and implementation.

ESPRIM reports that curriculum updates have been implemented across the programmes based on this review process. These include the introduction of new subject areas and the revision of existing modules, for example in fields such as artificial intelligence, machine learning, and sustainability-related topics. In addition, adjustments to module sequencing and prerequisite structures have been made in order to support a more coherent progression of studies.

The experts welcome the revision and the changes that have been implemented. Overall, they conclude that a systematic process is in place for the regular review and improvement of programmes. They also welcome the close relationship between ESPRIM and industrial stakeholders, which results in their feedback being considered closely in the programme

review process. However, they suggest that ESPRIM should consider not only the demands of the local industry, but also international academic standards and scientific developments in the respective technical fields. For instance, they recommend benchmarking the programmes against other international Master's programmes, in order to ensure greater alignment of the three programmes with international academic standards.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- Admission regulations
- Website
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The admission requirements and procedures for the engineering programmes at ESPRIM are defined in institutional regulations and implemented in accordance with Tunisian legislation governing private higher education. In accordance with Law No. 73/2000, there are two types of admission: admission through the preparatory cycle, or direct admission to the engineering programmes.

The preparatory cycle is open to all students holding a technical baccalaureate. As mentioned at the beginning of the report, students can select one of three preparatory tracks: Mathematics–Physics, Physics–Chemistry or Technology. Upon completion of this two-year preparatory cycle, students are entitled to choose one of the engineering programmes offered at ESPRIM.

It is also possible to apply directly to the engineering programmes. Any student, whether Tunisian or international, is eligible for the study programmes if he or she holds a technology license (EQF 6) matching the chosen engineering course, a Master’s degree or has completed a preparatory cycle at a different university. Master’s degree students may directly advance to the second year of the chosen programme if they have already achieved the necessary skills and knowledge in their previous degree.

The admission procedure consists of several stages. Candidates submit their applications through an online platform, where information on admission requirements, procedures, and previous admission cycles is made available. Applicants who meet the formal criteria are invited to participate in a motivation interview conducted by a selection committee. Final admission decisions are based on a merit-based ranking system, which combines the evaluation of academic records with the results of the interview. Candidates who achieve

or exceed the defined admission threshold for the respective programme are offered a place and are required to complete the enrolment process within a specified period by submitting the necessary documentation. If places remain available after the initial selection, an additional admission session may be organized following the same procedure.

The evaluation of applicants is based on a structured scoring system. The academic component of the score takes into account prior educational achievements, including secondary school results, the type and relevance of previous degrees, and overall academic performance. This is complemented by the interview score, which reflects the candidate's motivation and personal suitability for the programme. The combined score determines the final ranking and admission decision.

The admission process is applied to both national and international applicants. International candidates are required to provide evidence that their prior qualifications are recognized as equivalent by the Tunisian authorities. As the language of instruction is French, applicants must also demonstrate sufficient proficiency to follow the courses. Apart from these requirements, the selection procedure is identical for all applicants.

ESPRIM reports that the admission process and requirements are regularly reviewed and changes are made if necessary. Furthermore, the institution confirms that all regulations including the recognition of qualifications achieved externally are defined in the institutional regulations, legal frameworks, and internal guidelines.

Data for the programmes from 2022 to 2025 shows an increase in the number of applicants and admitted students. This rise has been particularly notable in the Computer Science and Embedded Electronics and Telecommunications programmes. The number of applicants has increased from 97 to 105 in Computer Science and from 17 to 56 in Embedded Electronics and Telecommunications. In Mechatronics, the number of applicants has remained relatively stable at around 55–60. The average acceptance rates are 56% for Computer Science, 19% for Mechatronics and 17% for Embedded Electronics and Telecommunications. Considering the high number of applicants compared to those admitted, experts conclude that there is high demand for the three programmes.

During discussions with students, the experts gain the impression that students are well informed about the admission requirements and procedures, as all the necessary information can be found on the EPI website. As the rules are based on decrees by the Ministry, the experts consider them to be binding and transparent for the selection process. However, as previously mentioned, the experts suspect that one reason for the limited advanced content in the three programmes is the low level of prior knowledge gained during the preparatory cycles. While the experts understand that the admission requirements and the structure of the preparatory cycles are largely determined by ministerial specifications,

they recommend modifying the admission procedure where possible so that students enter the engineering programmes with increased prior knowledge. For instance, ESPRIM should ascertain whether it is feasible to enhance the depth and breadth of the preparatory cycles' content, thereby elevating the level of advanced content within the three engineering programmes.

Furthermore, the experts note that the admission requirements for the three programmes do not stipulate that previous studies should account for at least 120 ECTS credits, ensuring that, by the end of their engineering programmes, students have altogether acquired at least 300 ECTS credits. During the audit, the experts learn that, in practice, the programme coordinators do enforce this, but the formal documents do not reflect this. To ensure formal transparency, the experts require the admission requirements to include information that prior studies must comprise a minimum of 120 ECTS credits.

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Programme Handbooks
- Module Descriptions
- Internal regulations
- Discussions during the audit

Discussions during the audit Preliminary assessment and analysis of the experts:
In terms of the allocation of student workload and credits, ESPRIM follows the principles of the European Credit Transfer and Accumulation System (ECTS). Each semester is assigned 30 ECTS credits, and the total workload of the programmes is distributed accordingly across the study period. The calculation of credits takes into account all components of student learning, including lectures, practical sessions, project work, and self-study. At ESPRIM, 1 ECTS credit corresponds to 25 hours of total workload.

The determination and monitoring of student workload are overseen by the Pedagogical Committee, which consists of permanent academic staff. This body is responsible for reviewing whether the estimated workload corresponds to the time required for students to achieve the intended learning outcomes. The review process is based on multiple sources of information, including feedback from teaching staff, observations of student performance and engagement, and analyses of workload distribution across modules. Where discrepancies are identified, adjustments to course design and workload allocation may be

proposed. According to the institution, further data collection through student feedback and surveys is planned in order to refine workload estimations across all modules.

Digital tools are used to support the management of workload and scheduling. An academic management platform is employed to record teaching hours, project work, and estimated self-study time for each module. Based on these inputs, the system calculates the total workload per module and supports the generation of timetables.

The experts acknowledge that a structured credit system is in place, which takes into account the total student workload and assigns ECTS credits to all compulsory components of the curricula. They also consider the estimated workload to be generally plausible and appropriately distributed across the semesters.

However, the experts note that the current system does not yet include systematic validation of the actual student workload based on direct student feedback. As previously mentioned, workload estimations are primarily reviewed through feedback from teaching staff and observations of student performance. From the experts' perspective, while this approach provides useful indications, it does not allow for direct verification of whether the workload corresponds to students' actual experience. During the discussions, students indicate that they generally do not encounter major difficulties with the workload, although the first year is described as particularly intensive. They also confirm that the programmes can typically be completed within the standard period of study. Students also report that they have opportunities to provide feedback, for example through general teaching evaluations or direct communication with teaching staff. The experts appreciate that such feedback channels are available. Nevertheless, they point out that there should be a dedicated, systematic mechanism for monitoring student workload based on direct student input at module level. They therefore require a structured approach to collecting student feedback on workload. One possible method would be to include targeted questions in course evaluations to assess whether the workload corresponds to the intended ECTS allocation.

Furthermore, the experts note inconsistencies in the allocation of ECTS credits for the internship components. As described above, both the Professional Immersion Internship at the end of the first year and the Engineering Internship at the end of the second year have a minimum duration of four weeks and may be extended to up to eight weeks. Despite this comparable duration, the first internship is awarded 3 ECTS credits, whereas the second internship is assigned 5 ECTS credits. During the audit discussions, the programme coordinators explain that this difference reflects the increasing level of responsibility and complexity of tasks expected from students in the second internship. The experts acknowledge this rationale. However, they point out that, according to ECTS principles, credit allocation should primarily be based on the student's total workload rather than on the level or com-

plexity of tasks alone. The experts therefore require reviewing the students' total workload in both internships and ensuring that the allocation of ECTS credits is consistently based on the actual workload required for each internship.

In addition, the experts confirm that each of the three engineering programmes comprises at least 180 ECTS credits. Considering prior studies, this equates to 300 ECTS credits by the time a Master's degree is awarded. However, as presented in Chapter 1.4, the prerequisite of prior studies comprising at least 120 ECTS credits is not formally defined, but unofficially practised. Therefore, this admission requirement must also be formally defined.

The experts review the cohort statistics and conclude that, on average, students manage to complete their studies on time. However, the dropout rate seems rather high, at around 40% in Computer Science, 30% in Mechatronics and 23% in Embedded Electronics and Telecommunications. The ESPRIM Directorate explains that most of these students decide to transfer from ESPRIM to ESPRIT Tunis, the main institution of the ESPRIT group, because they prefer the wider range of academic options and specialisations that ESPRIT Tunis offers. The number of students who actually drop out of the programme due to module failure is very low, at around 1–2 students per cohort across the three programmes. Students confirm that there are no systematic barriers at ESPRIM, and that all staff are very supportive, making it manageable to graduate within the intended study time. The experts welcome the fact that there are no systemic problems, and, on this basis, find the statistics acceptable.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Study plans
- Module descriptions
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, the teaching and learning approaches at ESPRIM are guided by an institutional pedagogical concept that emphasizes active student participation and application-oriented learning. The three programmes incorporate different teaching methods, combining more traditional forms of instruction with project-based and technology-supported approaches.

A particular focus is put on the integration of project- and problem-based learning formats. An introductory project module at the beginning of the studies introduces students to this

approach through team-based work on applied problem scenarios. In addition to project-based formats, teaching methods include lectures, interactive sessions, tutorials, and practical laboratory work. These formats are complemented by assignments such as presentations, reports, and group work, which are intended to support the development of analytical, communication, and teamwork skills.

Digital tools are used to support teaching and learning activities. In the Computer Science programme, a learning management system is used for the provision of course materials, communication, and the organization of assignments and assessments. In the other programmes, course materials are currently shared through cloud-based systems. According to the institution, a transition towards a unified digital platform for all programmes is planned in order to standardize and support teaching processes across departments.

The teaching methodology further includes the use of blended and hybrid learning formats. In addition, elements of the flipped classroom approach are applied in certain modules, where students prepare course content independently before engaging in application-oriented activities during contact hours.

Furthermore, the institution reports that independent work is supported, for instance, through the completion of the PFE (i.e. final project), which includes written documentation and an oral presentation.

To support teaching quality, the institution has implemented measures for staff development, including training activities and workshops focusing on pedagogical methods and the use of digital tools. In addition, initial procedures for the evaluation of teaching have been introduced. These include the collection of student feedback and other evaluation mechanisms, which are intended to inform further development of teaching practices.

The experts acknowledge that a variety of teaching methods and didactic means are used in order to achieve the learning outcomes and support student-centred learning and teaching. The students also report in the audit to be very satisfied with the learning methods used, confirming that they are implemented in a diverse and goal-orientated way. In particular, the students praise the high number of presentations and projects carried out by students.

However, based on their assessment of the PFE papers, the experts conclude that the students' scientific working skills are inadequate for a Master's programme. They attribute this to the absence of independent research and scientific training components in the three programmes, a point highlighted by discussions with students during the audit. When asked about their projects, students report that they usually carry them out without consulting any scientific literature. If they require further assistance, they ask teachers, who

either provide literature on technical tools or require students to conduct general internet research. The experts therefore emphasise the importance of training students in academic working and writing skills, including conducting research and literature reviews, which the students should then apply to their projects. In conclusion, the experts urge the institution to increase the research-oriented and scientific components of the modules and final-year project, in order to ensure alignment with EQF level 7, and to develop adequate scientific working skills.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 1:

The experts acknowledge the comprehensive statement submitted by ESPRIM. They find that the submitted material demonstrates a strong institutional commitment to improvement and shows that ESPRIM has already initiated a number of revision and development processes. At the same time, the experts note that most of the measures presented remain at an early stage of implementation and are currently reflected primarily through revised concepts, templates, procedures, planned activities, and institutional intentions. While these initiatives constitute an important starting point for institutional development, for the most part they do not yet provide sufficient evidence that the programmes have already resolved the aforementioned deficits. Consequently, except for the admission requirements, the assessment under Criterion 1 remains unchanged.

Criterion 1.1: The experts acknowledge the institution's efforts to strengthen alignment mechanisms by revising module templates and introducing more explicit links between module learning outcomes, programme learning outcomes, EUR-ACE® competence areas and EQF Level 7 descriptors. They also positively note the intention to introduce additional evidence mechanisms such as literature reviews, methodological documentation, plagiarism reports, and revised PFE evaluation tools. Nevertheless, the experts maintain that the issue identified does not primarily concern the formal formulation of learning outcomes, but rather their actual implementation and demonstration in teaching, assessment, project work, and student outputs. At this stage, evidence that students consistently achieve the expected scientific and academic competences remains insufficient. Therefore, the assessment remains unchanged.

Criterion 1.2 (Programme Title: Computer Science): The experts take note of ESPRIM's additional explanations concerning the internal logic and progression of the curriculum of the Computer Science programme. The experts appreciate the additional contextualisation and acknowledge the institution's efforts to better document curriculum coherence. However, these clarifications do not alter the observations formulated in the report. The recommendation concerning the programme title therefore remains unchanged.

Criterion 1.3 (Curriculum Depth, Structure and Scientific Orientation): The experts acknowledge ESPRIM's efforts to demonstrate greater coherence and progression within the curricula and its intention to strengthen research-informed activities and improve the alignment of module documentation. However, the experts note that the response focuses predominantly on explaining the existing curriculum architecture and improving formal transparency rather than demonstrating substantive changes to curriculum content and academic level. The key concerns raised in the report focus on the limited academic depth, the broad coverage of topics without sufficient specialisation, and the insufficient integration of advanced and research-oriented content. The experts therefore conclude that the prerequisite to strengthen curriculum depth and scientific orientation remains fully valid.

Criterion 1.3 (Mobility): ESPRIM acknowledges the recommendation to further strengthen student and academic mobility and intends to address this within its annual curriculum review and broader institutional strategy. They also refer to the existing partnership with Polytech Dijon and the identification of internationalisation as a strategic priority. At the same time, key measures—such as systematic monitoring of outgoing mobility and the expansion of international collaborations—are still in progress. Therefore, the experts agree to keep the recommendation unchanged.

Criterion 1.4 (Admission Requirements): The experts acknowledge that ESPRIM has revised the presentation of its admission requirements and supporting documentation in order to explicitly clarify that admission requires prior studies comprising a minimum of 120 ECTS credits. Since this aspect is now transparently reflected in the relevant institutional documents and aligned with the applicable regulations, the experts consider this requirement fulfilled.

Criterion 1.5 (Workload, ECTS and Internship Credits): The experts positively acknowledge the introduction of workload-related monitoring mechanisms and the planned integration of workload questions into student evaluations. They also welcome the planned review of internship workload and ECTS allocation. These measures address the concerns raised in the report and represent an appropriate methodological approach. However, as the proposed instruments have not yet been implemented and no results are available, the experts consider the issue not yet resolved and maintain their assessment until evidence of implementation and effectiveness is available.

Criterion 1.6 (Research-Based Learning, Scientific Methodology and Academic Writing): The experts appreciate that ESPRIM has recognised this topic as a transversal issue and has initiated measures to strengthen scientific methodology, literature use, academic writing, academic integrity, and staff development. The planned faculty workshops and the intention to introduce scientific components across communication, project-based and technical

modules are viewed positively. Nevertheless, the experts note that the identified concerns relate not only to the formal inclusion of such elements but to their actual integration into students' learning experience and demonstrated competences. In particular, the experts still do not see evidence that students are systematically trained in scientific working methods, independently engage with scientific literature, or apply research methodologies in projects and final theses at the level expected for Master's programmes. The assessment therefore remains unchanged.

Overall, the experts conclude that ESPRIM has demonstrated a clear awareness of the identified challenges and initiated several promising development activities. The institution appears to be moving in the right direction. However, as most measures are still in the initial implementation phase, they cannot yet be considered sufficient evidence of achieved change.

Criterion not fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Module descriptions
- Student Handbook
- Samples Exams & Theses
- Discussions during the audit

Preliminary assessment and analysis of the experts:
At ESPRIM, assessment is conducted according to the regulations defined in the examination regulations. According to the self-assessment report, examination is organised on a module basis, with each module defining its own evaluation strategy in accordance with the competencies to be acquired. At the beginning of the academic year, assessment methods are specified in the module descriptions and are aligned with the respective learning outcomes.

Student assessment combines continuous evaluation and final examinations. Continuous assessment may include written tests, practical work, reports, oral presentations, or other subject-specific assignments. These elements are intended to provide ongoing feedback to students and support the development of their competencies. Final examinations are con-

ducted at the end of teaching periods and may take the form of written exams, practical assessments, or oral defences, depending on the nature of the module.

The structure of modules also determines the format and frequency of examinations. During the audit, the experts learn that some modules last only seven weeks (i.e. half a semester), whereas others span the full 14-week semester. This categorisation is indicated in the study plan. Modules with shorter teaching periods are typically assessed through a final examination at the end of the period, while longer modules include both mid-term assessments and final examinations. Given this study structure, experts understand the relatively high number of modules as described in chapter 1.3.

ESPRIM reports that examinations are designed to cover both theoretical knowledge and practical competencies. Written examinations primarily assess conceptual understanding, analytical skills, and problem-solving abilities, while practical assessments focus on the application of knowledge in hands-on contexts. Evaluation criteria are communicated to students in advance, typically as part of the exam documentation, and include defined grading guidelines aligned with the learning outcomes. The grading system follows a 20-point scale, with a minimum score of 10 required to pass a module.

Students who do not achieve a passing grade in a written final examination are given the opportunity to retake the exam during a catch-up session. These re-sit examinations are organised approximately two weeks after the publication of results and apply the same assessment criteria as the initial examination. Only the components that were not passed need to be retaken, allowing for an individualised approach to reassessment.

Regulations regarding absence from examinations are defined in accordance with national requirements. In principle, absence results in a failing grade unless justified by valid reasons such as medical issues, family emergencies, or official obligations. In such cases, and upon approval by the academic committee, students may take a make-up examination without penalty. The system also provides arrangements for students with special needs. Depending on individual circumstances, measures such as adapted examination rooms or separate settings may be provided to ensure equal conditions.

In the audit, students report being satisfied with the overall examination system. They confirm that they receive all the relevant information, such as examination dates and assessment criteria, at the beginning of the semester. When asked about the workload and difficulty of the examinations, students said that they are usually manageable, but that the overall number of exams is sometimes very high due to the high number of modules, and should preferably be reduced. This underlines the experts' opinion that the programmes include too many small modules, which consequently result in a high workload in terms of assessments. Thus, in the context of the experts' recommendation to increase the depth

of the modules, ESPRIM should also consider modifying the module structure and offering fewer modules with more depth, which would also mean fewer exams.

Overall, though, the experts acknowledge that a comprehensive examination system is in place, which aims to ensure transparent and fair grading. They also observe that a variety of assessment methods are used to evaluate the achievement of the intended learning outcomes across the programmes and individual modules, and particularly praise the high number of oral presentations. Having reviewed various examination samples, the experts observe that the level displayed in the exams is somewhat heterogeneous. While some are at the expected level, others display a lower level of competence. Overall, however, the experts conclude that, while the level of the assessments could be increased further, they are largely acceptable and correspond roughly to EQF level 7.

However, the experts note that there is no dedicated and comprehensive examination regulations document available. While the student handbook provides general information on assessment formats, the grading system, written exam procedures, and the absence policy, it does not cover all relevant aspects in a sufficiently detailed and structured manner. This concerns especially regulations related to the final thesis (PFE), such as the supervision arrangements (including the qualifications of the supervisors), detailed assessment procedures, and grading criteria. According to the programme coordinators, these aspects are governed by ministerial regulations. While the experts acknowledge this, they emphasise that such information should also be transparently documented and readily accessible to students and other interested parties. Therefore, they require ESPRIM to establish a complete set of examination regulations that clearly define all rules related to the conduct of examinations and final projects and to ensure that these are accessible to students and relevant stakeholders.

Final graduation project (PFE)

The Master's thesis or final graduation project (PFE – *Projet de Fin d'Études*) constitutes the final component of all three programmes and represents the culmination of the students' academic training. It is organised as a full-semester activity in the sixth semester and is awarded 30 ECTS credits. The PFE is conducted in the form of an internship, typically lasting between four and six months, and may be carried out in a company, a research laboratory, or, in some cases, an international environment. It is designed to enable students to apply their acquired knowledge and skills to a concrete professional or research-oriented problem.

The process begins with a preparatory phase in which students identify and secure a suitable project. While students are responsible for finding their own placement, the institution supports them by providing access to a catalogue of project proposals submitted by partner

organisations. After selecting a project, students typically undergo a selection process conducted by the host organisation. As part of the approval process, students submit a structured project proposal that includes information on the topic, objectives, methodology, host organisation, and the designated company supervisor. Following validation by a review committee, each student is assigned an academic supervisor. The PFE is thus carried out under a dual supervision model, combining academic oversight with guidance from the company or host institution.

During the planning phase, students define the scope of their project in more detail. This includes conducting initial research and developing a more precise project plan. The execution phase involves the practical realisation of the project. Regular meetings with supervisors are intended to support the monitoring of progress and the resolution of emerging challenges. A mid-term evaluation is conducted approximately halfway through the project, based on a progress report and feedback from both the company and the academic side. In addition, an independent academic tutor may be involved in monitoring the student's development.

Parallel to the practical work, students prepare a written report documenting their project. The report is reviewed by the academic supervisor prior to final submission and must follow institutional guidelines. The final phase of the PFE consists of an oral defence before a jury composed of academic staff. During the defence, students present their project and respond to questions from the jury. The evaluation is based on predefined criteria, including the quality and relevance of the project, the written report, the presentation, and the student's ability to explain and justify their work. Following the defence, a final grade is awarded, taking into account the different components of the assessment, including the report, the presentation, and feedback from the host organisation.

Having reviewed a range of student project work and PFE samples, the experts identify significant shortcomings regarding the academic level and overall quality of the final projects. In their assessment, the submitted theses do not meet the expectations associated with EQF Level 7. Thus, the experts observe that the projects are predominantly focused on practical implementation, with limited evidence of a structured academic approach. This observation is consistent with their broader impression of the programmes, which place a strong emphasis on application while giving comparatively less weight to research-oriented and scientific components. As a result, students appear to rely mainly on practice-based approaches and non-scientific sources instead of systematically engaging with relevant academic literature (see also Chapter 1.6).

These tendencies are reflected in the overall structure and presentation of the final projects in the sense that key elements expected in academic work are only partially devel-

oped. In particular, the formulation of a clear problem statement or research objective is often not sufficiently substantiated, methodological choices are not always transparently explained, and the discussion of results tends to remain descriptive rather than analytical or critical. The integration of results into a broader academic or disciplinary context is also only limited or not at all present.

A particularly serious concern of the experts relates to the use of sources and referencing. In many of the reviewed theses, references are either missing, insufficient, or not cited according to academic standards. At the same time, there are indications that external material is used without proper attribution. The experts consider this a critical issue, as it affects both the academic quality of the work and compliance with basic principles of academic integrity. They also note that shortcomings in referencing practices are already visible in the Recommended Literature section of the module descriptions, which may contribute to the insufficient development of these competences among students.

Overall, the experts conclude that the weaknesses identified in the final projects reflect broader structural deficits of the programmes, particularly the limited emphasis placed on scientific methodology and academic writing. They also emphasise the importance of strengthening research-oriented teaching and supervision practices, as discussed further in Chapter 3.1.

In conclusion, the experts emphasise that final projects must demonstrate a significantly higher level of academic rigour in order to meet EQF Level 7 requirements. They therefore require ESPRIM to ensure that future theses adhere to established academic standards. This includes, in particular, the ability to formulate a clear research question or problem, to engage with relevant literature, to apply and justify appropriate methods, and to present and discuss results in a structured and academically sound manner, supported by proper and consistent referencing.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 2:

The experts take note of ESPRIM's response and acknowledge that the institution accepts the observations regarding the academic level and scientific quality of the Final Year Projects (PFE). They positively acknowledge that ESPRIM has initiated several measures to strengthen academic rigour, including the introduction of a dedicated PFE module description, revised assessment criteria, structured report templates, formalised supervision procedures, and measures to reinforce academic integrity such as plagiarism screening, integrity declarations, and supervisor training. At the same time, the experts emphasise that most of the measures described are still at an early stage of implementation and that evi-

dence of their effectiveness is not yet available. The assessment therefore remains based on the material reviewed during the audit, including student reports and PFE samples, which revealed substantial shortcomings. While the experts appreciate the direction of the initiated reforms, they conclude that the process is not yet sufficiently implemented or evidenced to revise the original assessment. For future reassessment, ESPRIM will need to demonstrate the practical implementation and impact of these measures, in particular through revised examples of student project work and PFE reports developed under the updated framework.

Criterion not fulfilled.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Staff Handbook
- Module descriptions
- ESPRIM Human Resource Plan
- Discussions during the audit

Preliminary assessment and analysis of the experts:
ESPRIM presents data on the number and overall qualification of staff for the three study programmes in the Self-Assessment Report and the staff handbook.

The staffing structure at Tunisian higher education institutions (HEIs) is shaped by the national regulatory framework for private higher education institutions. Accordingly, permanent academic staff at private institutions are not eligible for academic promotion to titles such as associate professor or full professor. Consequently, teaching at ESPRIM is carried out by a combination of permanent, full-time staff employed directly by the institution, and part-time lecturers recruited from either public universities or industry.

According to the Self-Assessment Report, ESPRIM currently employs 73 teaching staff members in total, consisting of 14 permanent academic staff, 52 part-time lecturers (employed at another universities), and 7 lecturers from the industry. A total of 47 members of the teaching staff hold a PhD. The teaching staff can be categorised according to their academic and professional profiles. These include senior lecturers, assistant professors, technologists and engineers.

During the audit, ESPRIM indicates that the institution is working towards increasing its permanent teaching staff to 28. The programme coordinators also inform the experts that part-time staff deliver between 30 and 40% of teaching in the three programmes. The directorate states that staffing levels and the distribution of teaching assignments are monitored by the pedagogical committee to ensure an appropriate student-to-faculty ratio is maintained and the intended learning outcomes are achieved.

The recruitment of teaching staff follows a structured process. According to the information provided during the audit, applicants submit an online application including supporting documents regarding their academic qualifications and professional experience. For part-time and visiting lecturers, CVs are reviewed first, followed by interviews. Additionally, ESPRIM identifies industry professionals whose profiles align with specific teaching requirements and approaches them directly. The institution states that academic qualifications, professional expertise and teaching capabilities are all taken into account during the recruitment process.

The institution also describes measures to support the integration of newly recruited teachers. According to the audit discussions, new staff members receive guidance from experienced colleagues and are introduced to teaching materials and pedagogical expectations. This process is intended to ensure continuity in teaching quality and alignment with institutional teaching standards, particularly given the high proportion of part-time teaching staff.

Teaching quality is monitored through several mechanisms. According to the Self-Assessment Report, the pedagogical committee reviews faculty performance based on teaching observations and student feedback. Student evaluations are used to identify areas for improvement, and the institution states that targeted staff development measures can be introduced where necessary.

With regard to workload, permanent teaching staff are employed on a full-time basis with an overall workload of 40 hours per week. According to the teaching staff, this workload typically includes at least 15 hours of direct teaching, while the remaining time is allocated to student supervision, coordination tasks, administrative duties, and research-related activities. Teachers report that supervision of final projects forms an important part of their workload, with an average of six to seven students supervised per semester. Part-time lecturers, by contrast, are mainly responsible for teaching activities and are typically present only during their assigned teaching hours.

Staff development is supported through regular professional development activities organised within the ESPRIT Group. According to the Self-Assessment Report, faculty members have access to training sessions offered by the “Training of Trainers” department, covering

topics such as innovative pedagogical methods and the use of artificial intelligence in education. Furthermore, teachers can participate in additional training opportunities such as workshops and online courses in order to strengthen their teaching competences.

In the area of research and academic development, ESPRIT reports that research and development activities are still expanding as part of the institution's strategic planning. Faculty members are encouraged to join research teams within ESPRIT TECH, the ESPRIT Group's research division. Teachers also report that participating in research projects with partner universities is possible, and that while publication of research output is not mandatory, it is included as a target in institutional performance indicators.

Overall, the students report being satisfied with the qualifications and competence of the teaching staff. They highlight, in particular, the close and supportive relationship they have with the permanent lecturers, who are perceived as accessible and responsive to their requests. While students also have a positive view of the part-time teaching staff, they note that their limited on-site presence can make interaction more challenging. In this context, students express a wish for more permanent teaching staff who are consistently available.

The experts confirm that the overall composition, qualifications, and professional backgrounds of the teaching staff are suitable for delivering the degree programmes. They acknowledge the structured recruitment procedures, the monitoring of teaching quality, and the opportunities for pedagogical training provided by the institution. At the same time, in line with the feedback from students, the experts encourage ESPRIM to further increase the proportion of permanent teaching staff, particularly those holding a doctoral degree, in order to strengthen academic continuity and student support.

However, the experts identify significant shortcomings with regard to the research activity and academic as well as professional development of the teaching staff. While they acknowledge that ESPRIM has initiated measures to strengthen research, they observe that the institution remains predominantly focused on teaching, with research activities playing a comparatively limited role. Based on the information available, only very few of the permanent academic staff has been engaged in research or scientific publication in recent years.

From the experts' point of view, this limited research engagement is closely linked to several of the structural issues identified in the programmes. In particular, they see a connection between the low level of research activity among teaching staff and the insufficient depth and scientific orientation of the curricula, as well as the limited integration of research-based learning. The experts emphasise that active involvement in research is essential for ensuring that teaching staff remain up to date with current developments in their

fields and are able to convey state-of-the-art knowledge and scientific methodologies to students.

This observation is further reflected in aspects such as how literature is referenced in module descriptions and how sources are handled in student work. As previously mentioned, the literature listed in module descriptions is not always cited in accordance with international academic standards. Similar issues are evident in the reviewed PFE thesis samples. As outlined in Chapter 2, many of these works demonstrate significant shortcomings in the use of sources and references: references are frequently absent, inadequate, or incorrectly cited. Furthermore, there are indications that external material has been used without proper attribution at all. As these works have been supervised, accepted and graded, the experts consider this a serious matter of concern as it raises questions regarding the consistent application of academic standards and adherence to principles of academic integrity within the programmes.

Against this background, the experts underline the importance of strengthening the research and academic development of the teaching staff. They consider this to be a key factor in enhancing the overall academic level of the programmes and in ensuring alignment with the requirements of EQF Level 7. In particular, they emphasise that teaching staff should be more actively engaged in research activities and continuous professional development, and that academic standards—such as proper use of sources and adherence to principles of academic integrity—should be consistently applied in both teaching and supervision.

In addition, the experts point out that scientific exchange, particularly in an international context, is extremely important for teachers and researchers. They are informed that ESPRIM provides certain forms of support, including partial funding for conference participation and opportunities for academic mobility. However, based on the audit discussions, it seems that these opportunities are only rarely used in practice. The experts therefore encourage ESPRIM to promote and facilitate academic mobility and participation in the international academic community further. Strengthening these activities is seen as beneficial for staff development, as well as for enhancing the academic quality of programmes and students' learning experience.**Criterion 3.2 Student Support and Student Services**

Evidence:

- Self-Assessment Report
- Website
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The experts note that ESPRIM has a structured system of student support and services that covers the entire student lifecycle, from admission and throughout their studies, to graduation and transition into employment. Student support is provided in the form of academic, administrative and personal assistance, delivered through defined organisational units and processes.

Academic support is provided through pedagogical coordinators and regular exchanges between students and teaching staff. Student progress is monitored through continuous assessment, class councils, and faculty meetings.

In addition to academic support, the institution offers services addressing students' well-being. A dedicated support unit provides assistance in cases of personal or psychological difficulties and is involved in monitoring attendance and student engagement. Students identified as at risk, for example due to absenteeism or declining performance, are contacted and supported through targeted interventions.

Career-related support is provided through institutional structures that assist students in securing internships and preparing for professional integration. This includes support for mandatory internships and final-year projects, as well as access to career guidance services at group level. These services also contribute to linking students with external stakeholders and employment opportunities.

According to teachers and students, student support is further characterized by relatively close interaction between students and staff, facilitated by the organizational setting and cohort sizes. Students have access to teaching staff for both academic and non-academic matters, and communication channels are established to enable feedback and consultation.

The experts notice that there are enough resources available to provide individual assistance, advice and support for all students. The support system helps the students to achieve the intended learning outcomes and to complete their studies successfully and timely. The students are well informed about the services available to them.

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- On-site visit of the facilities
- Discussions during the audit

Preliminary assessment and analysis of the experts:
ESPRIM is a private higher education institution and therefore finances its activities primarily through tuition fees. Currently, annual tuition fees amount to approximately 7,700 Tunisian dinars (about 2,200 Euros) per year. The institution indicated that financial planning is conducted on a regular basis in order to ensure the allocation of resources to academic and infrastructural needs and to support the continued operation of the programmes.

In addition, ESPRIM reports that certain financial safeguards are in place to ensure continuity of provision. These include internal financial provisions as well as a regulatory framework under which, in exceptional cases where an institution would no longer be able to maintain operations, the ministry responsible would ensure that students can complete their studies. Tuition fee reductions are offered to high-performing students, for example in the form of partial fee waivers for students within the top performance group.

The experts conclude that secure funding and reliable financial planning are in place to provide a sustainable basis for delivering the degree programmes.

With regard to physical and technical resources, ESPRIM provides a range of laboratories and facilities intended to support practical training within the programmes. These include laboratories for electronics, optics, mechatronics, and computing. For computing-related courses, students are generally expected to use their own laptops, while the institution provides the necessary software, infrastructure, and network access. In addition, ESPRIM cooperates with other institutions within the ESPRIT Group, particularly with regard to access to specialised technical facilities such as mechanical workshops equipped with prototyping tools (e.g. laser cutting and 3D printing).

Mechanisms are in place to collect feedback on infrastructure and resources, and the institution reports that it responds to identified needs or shortages, for example through the acquisition or upgrading of equipment or through temporary adjustments to teaching arrangements where necessary.

During the on-site visit, the experts inspect all relevant facilities at ESPRIM. When reviewing the laboratories, they observe that the institution provides the basic infrastructure necessary to deliver the study programmes. Thus, the available laboratories enable students to

carry out practical exercises so that the fundamental technical requirements for implementing the curricula are met. However, the experts also note that the overall level of equipment and facilities remains rather basic and, in many cases, outdated. This is also evident with regard to the available computer infrastructure. While students are expected to work primarily on their own laptops, the institution provides only a limited number of shared computers, which are likewise not up to current standards. Against this background, the experts recommend continuously upgrading laboratory equipment across all three programmes and establishing a dedicated, modern computer room.

A central concern raised by the experts relates to the availability of academic resources and literature. During the visit, they discover that what is referred to as a "library" consists essentially of a room with workspaces and shelves used to archive student reports, but without access to printed academic books or structured collections of scientific literature. Moreover, students and staff do not have systematic institutional access to major academic databases or digital libraries. Access to scientific publications appears to depend largely on individual lecturers, who occasionally provide materials upon request. For example, experts learn that some students requested help from their teachers and received selected research papers to support them in completing their project.

In the experts' view, this limited access to academic resources constitutes a significant structural deficiency. It not only restricts students' ability to engage independently with scientific literature but also hampers the development of essential academic competences, such as literature-based research and scholarly writing. This observation is consistent with findings in other areas of the assessment, particularly regarding the limited use of scientific sources and the overall insufficient integration of scientific elements within the programmes. This is further supported by student feedback, which highlights a clear desire for improved access to academic literature, both digital and, where appropriate, printed.

The experts therefore require ESPRIM to establish an adequately equipped library that provides systematic access to up-to-date scientific literature and ensures that both students and teaching staff can independently access relevant academic resources. In addition, they recommend providing institutional access to key subject-specific databases such as IEEE, ACM, and Springer, which are widely used in the relevant engineering and computer science disciplines. Ensuring independent access to such resources is considered essential for fostering academic autonomy and strengthening research-oriented learning.

Beyond academic resources, the experts also identify room for improvement in general student facilities. Students indicate a need for additional spaces for studying and social interaction between classes, as well as specific facilities such as a designated prayer room. The experts consider these requests reasonable and recommend that ESPRIM further de-

velops its campus infrastructure by creating additional student workspaces and communal areas.

In summary, while the basic material conditions for delivering the programmes are in place, the experts conclude that significant improvements are necessary to bring the infrastructure in line with the requirements of a Master's-level academic environment. Particular priority should be given to strengthening access to scientific literature—through the establishment of an adequate library—and to modernising technical equipment.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 3:

The experts positively note that ESPRIM has initiated measures aimed at strengthening the research profile of academic staff, including introducing faculty development workshops, integrating research performance into staff evaluation, affiliating staff with research structures within the ESPRIT Group, and planning the recruitment of additional permanent PhD holders.

The experts also welcome ESPRIM's recognition of the strategic importance of scientific resources and acknowledge the planned establishment of institutional access to scientific databases, the development of a dedicated library, the creation of a modern computer room, and the planned improvement of student facilities.

At the same time, the experts emphasise that most of these measures are currently in the planning or early implementation phase and therefore cannot yet be considered fully effective. With regard to teaching staff, the response mainly documents and highlights existing research activities rather than demonstrating a substantial strengthening of the research culture across the institution. In particular, they maintain that stronger research engagement and academic development of staff must become systematically embedded in teaching, supervision, and the development of students' scientific competences.

Regarding infrastructure and academic resources, the experts appreciate that ESPRIM has identified the improvement of library services and scientific resource access as a strategic priority. However, the planned measures have not yet been implemented and therefore cannot yet influence the current academic environment. For these reasons, the assessment of the experts remains unchanged.

Criterion not fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Module descriptions

Preliminary assessment and analysis of the experts:
The students confirm during the discussions that information about the courses is always available online and that details concerning examinations and contents are provided at the beginning of each course by the teaching staff.

The experts review the module descriptions for all three programmes and note that, in principle, they cover the expected key elements. Thus, the module descriptions include information on the module identification code, content, intended learning outcomes, teaching methods, forms of assessment, credit points, workload, grading, recommended literature, the person responsible for the module, and prerequisites.

However, the experts identify several shortcomings with regard to the quality, consistency, and completeness of the module descriptions. A recurring issue concerns inconsistencies in module titles across different documents, such as study plans and module descriptions. While these discrepancies may partly be due to translation issues, they nevertheless reduce transparency and may lead to confusion among students and other stakeholders.

In addition, the experts observe that a number of module descriptions are incomplete. In several cases, essential information is missing, including the designation of responsible persons, clear descriptions of teaching methods and precise formulations of learning outcomes. The module descriptions for internships lack information on credits and workload. This limits the usability of the module descriptions as a reliable source of information for students. Moreover, the experts point out that no module description is provided for the final thesis (PFE), although it represents a central component of the programmes.

Further shortcomings relate to referencing literature. As mentioned before, the experts note that the list of literature used and recommended in the module descriptions is often not cited in accordance with academic standards. This lack of consistency in referencing affects the quality of the documentation and weakens its function as a model for students' own academic work.

Finally, the experts observe that the module descriptions are not standardised in terms of format and level of detail. There are noticeable variations in structure, depth, and the type of information provided, as well as discrepancies between different programme documents.

Against this background, the experts require that all module descriptions be comprehensively revised, standardised, and made fully accessible to students. This includes ensuring consistent module titles across all documents, providing complete and accurate information for each module, applying appropriate academic standards in referencing, introducing a module description for the final thesis, and establishing a uniform format and level of detail across all module descriptions.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report
- Sample Diploma Supplements

Preliminary assessment and analysis of the experts:
The experts confirm that graduates of the programmes under review are awarded a Diploma Certificate and a Diploma Supplement. The Diploma Supplement includes a Transcript of Records listing all completed courses, the corresponding credit points, grades, and the cumulative GPA.

While the Diploma Supplement contains most of the required information, experts note shortcomings in the presentation and contextualisation of the final grade. Although a table relating grades from A to E to certain cohort percentages is included, it is not sufficiently explained. In particular, there is no clear explanation of how the graduate's final grade, based on the Tunisian grading system, is positioned within the ECTS grading framework, nor in relation to the cohort's overall performance – in neither the concrete samples nor in general. The experts therefore require precise and transparent contextualisation of the graduate's grade to be provided, including appropriate statistical data, in line with the ECTS Users' Guide.

Furthermore, Chapter 8 of the Diploma Supplement, titled "Information on the National Higher Education System," is currently included as a heading only, without any accompanying content. The experts require that this section be completed accordingly to ensure full compliance with the criteria.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- ESPRIM's website

Preliminary assessment and analysis of the experts:
The experts confirm that the rights and obligations of both the institution and the students are largely defined and binding. Relevant rules and regulations are published on the university's website and are thus accessible to all stakeholders. In addition, students receive the necessary course materials at the beginning of each semester.

However, as outlined in Chapter 2, the experts note that there is no dedicated and comprehensive examination regulations document in place. While the student handbook provides general information on assessment formats, the grading system, examination procedures, and the absence policy, it does not cover all relevant aspects in a sufficiently detailed and structured manner. This is particularly evident with regard to regulations concerning the final thesis (PFE). The experts therefore require ESPRIM to establish a comprehensive set of examination regulations that clearly define all rules related to the conduct of examinations and final projects, and to ensure that these are fully accessible to students and other relevant stakeholders.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 4:

With regard to the module descriptions, the experts welcome the introduction of a unified institutional template, the comprehensive review of all module sheets, and the establishment of quality criteria. The creation of a dedicated PFE module description and the intention to strengthen scientific references and research components are also positively noted.

At the same time, the experts emphasise that the revision process is ongoing and that the updated module descriptions had not been fully implemented or finalised by the time of the assessment. They point out in particular that the content descriptions need to be checked again alongside the planned revisions to the three study programmes. Consequently, the effectiveness and consistency of the revised documentation cannot yet be fully evaluated in practice.

Regarding the examination regulations, the experts welcome ESPRIM's intention to establish a dedicated and comprehensive Examination and Assessment Regulations document. However, since the document is still under preparation and implementation, the experts maintain the corresponding requirement.

With regard to the Diploma Supplement, ESPRIM has revised the template structure so that it now includes statistical data on the cohort's performance according to the ECTS User Guide, as well as information on the national education system. Furthermore, the admission requirements stipulate that applicants must have completed prior studies comprising

a minimum of 120 ECTS credits. For this reason, the experts conclude that criterion 4.2 is met.

Overall, the experts consider the initiated improvements under Criterion 4 as positive and appropriately structured. Nevertheless, as implementation and evidence of effectiveness are still pending in key areas, the requirements concerning examination regulations and module descriptions remain unchanged.

Criterion not fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-Assessment Report
- Student Handbook
- Quality Management Handbook
- Samples of questionnaires
- Survey results
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The experts note that ESPRIM has established a quality management framework that is defined in its Quality Manual (2024) and aligned with international standards, in particular ISO 21001. Responsibilities and procedures are formally assigned, with overall coordination ensured by the academic leadership and a designated quality referent.

According to the self-assessment report, internal quality assurance processes for the study programmes are currently being progressively implemented and further developed. A comprehensive curricula update was carried out in the academic year 2023/2024 in connection with ESPRIM's integration into the ESPRIT Group and in line with its strategic orientation. In addition, regular pedagogical committee meetings—typically held on a weekly or bi-weekly basis—serve as an operational platform to monitor course delivery and discuss potential improvements. An internal audit of academic processes is planned, with the aim of systematically reviewing compliance and identifying areas for further enhancement.

With regard to data collection and monitoring, ESPRIM indicates that systematic processes are currently being established. With the integration into the ESPRIT Group, the institution has initiated the development of structured instruments, to be implemented on a regular basis. These evaluation instruments include semester-based course evaluations, annual student satisfaction surveys, graduate surveys, and structured feedback from employers and industry partners. According to the information provided during the audit, course evaluations are conducted twice per academic year, at the end of each semester. The results are reviewed by a designated group consisting of the quality assistant, the quality manager, and the academic director. Subsequently, the findings are discussed with the teaching staff in dedicated meetings, and the outcomes are communicated to student representatives and the wider student body.

Stakeholder involvement is integrated into the quality management processes in several ways. Students contribute primarily through evaluation surveys and through elected class representatives. Industry stakeholders are currently involved mainly through informal mechanisms, such as partnership meetings, workshops, and feedback obtained in the context of internships. At the same time, ESPRIM is in the process of formalising this collaboration through the establishment of an Industry Advisory Committee, which is expected to meet regularly and provide structured input on programme relevance and learning outcomes.

In the audit, students report being satisfied with the quality assurance at ESPRIM. They confirm that surveys are carried out every semester and that they are informed about aggregated survey results. They add that feedback can also be communicated directly to teachers and other staff members at any time, and that it is welcomed and taken seriously. The experts conclude that ESPRIM has a comprehensive quality management system in place, ensuring the regular review of all programmes and consideration of feedback from all relevant stakeholders.

Final assessment of the experts after the comment of the Higher Education Institution regarding criterion 5:

In their statement, ESPRIM expresses appreciation for the positive feedback of the experts and announces that they will further increase their internal quality assurance mechanisms. These measures include carrying out a substantial internal academic audit before March 2027 and formalising stakeholder involvement. This will include the establishment of an Industry Advisory Committee, with the first meeting scheduled for Q4 2026. The experts welcome these planned measures. As no deficiencies were identified under this criterion, the assessment remains unchanged and positive.

Criterion fulfilled.

E Additional Documents

No additional documents needed.

F Comment of the Higher Education Institution (01.06.2026)

The institution provided a variety of documents, as well as an extensive statement. The following is a partial quotation of the statement:

“ESPRIM acknowledges receipt of the ASIIN draft accreditation report dated 12 May 2026 and notes with appreciation the precision and constructiveness of the expert panel’s assessment. The institution has carefully analysed the observations, requirements and recommendations formulated in the draft report. This response is structured in parallel with the report's own sections to facilitate the panel's review.

The report identifies real shortcomings in curriculum depth, research orientation, scientific methodology, FYP academic rigour, module documentation, access to scientific literature, examination regulations, workload monitoring and document transparency. The institution does not contest these findings. ESPRIM recognises that, while its strong professional and application-oriented profile constitutes a genuine strength acknowledged by the panel, this profile must be more clearly balanced with the academic, scientific and research-based expectations associated with EQF Level 7 and the EUR-ACE® Framework Standards and Guidelines.

The key contextual fact of this response is the following: the audit visit took place on 28–29 January 2026. The first pedagogical committee meeting dedicated to the ASIIN findings took place on 3 February 2026. Since then, nine dedicated working sessions have been held between 3 February and 25 May 2026 (Annex 12). A full action plan has been produced (Annex 1); module sheets have been revised; a PFE framework has been created; faculty development workshops have been scheduled for 1, 2 and 3 July 2026 (Annex 7); an internal quality analysis of the 219 modules across the three programmes has been completed (Annex 4); and additional operational PFE controls have been prepared, including academic integrity, plagiarism screening, subject validation and pre-defence verification evidence (Annexes 17 to 21). This response documents that trajectory.

For each ASIIN observation, the response identifies the issue, the actions already undertaken since the audit visit, the actions under implementation, the responsible bodies, the deadlines and the supporting evidence. ESPRIM deliberately distinguishes between immediate corrective measures already documented, measures being deployed for the 2026–2027 academic year, and structural reforms requiring Academic or Scientific Council vali-

dation. The detailed action plan provided in Annex 1 should be read alongside this document.

Executive Summary of Corrective Actions Undertaken Since the Audit Visit

In response to the expert panel's observations, ESPRIM has moved from analysis to implementation through a structured action plan. The most important corrective actions already initiated are the following:

- A consolidated ASIIN/EUR-ACE® action plan (Annex 1) has been prepared, including actions, responsibilities, deadlines, indicators and evidence.
- A common institutional module-sheet template (Annex 2) has been adopted and is being deployed across the three programmes.
- A systematic quality analysis of the 219 modules in the three study plans has been conducted (Annex 4), with per-module scoring, criticality classification and a prioritised corrective action plan.
- Module descriptions are being revised to strengthen measurable learning outcomes, Bloom cognitive levels, workload description, assessment alignment and academic references.
- A PFE 30 ECTS module sheet has been created (Annex 5, updated 24/05/2026), and a Final Year Project institutional template and guide have been communicated to students and teachers (Annex 16). The PFE evidence package has been reinforced with an academic integrity declaration, a plagiarism detection procedure, supervisor briefing minutes, a PFE subject validation form and a pre-defence verification checklist (Annexes 17 to 21). The new procedures are being applied to the current graduating cohort. Their implementation outcomes will be reviewed and reported in the next institutional quality report and programme-level continuous improvement reports.
- Research methodology, scientific writing, literature review and IEEE referencing are being integrated progressively into project-based modules (Annex 6), language modules (Annex 9), internships and the Final Year Project (Annex 14).
- A Scientific Resources Development Plan (Annex 7) has been formalised, including three faculty workshops scheduled for 1, 2 and 3 July 2026 with named trainers, a transitional approach to scientific literature access during 2026–2027, and a planned IEEE Xplore subscription by March 2027.
- A curriculum fragmentation analysis (Annex 13) has been completed, with a consolidation roadmap targeting structural improvements during 2026–2027 and 2027–2028.

- A standalone Examination and Assessment Regulations document is being formalised to cover examinations, grading, resits, appeals, internships, PFE supervision, jury composition, academic integrity, plagiarism control and defence authorisation rules.
- The quality management system is being used to monitor implementation through a dedicated dashboard, internal reviews and evidence tracking, in alignment with the institution's ISO 21001 certification.”

More detailed comments from ESPRIM on each criterion can be found below each chapter, alongside the experts' final assessment.

G Summary: Expert recommendations (05.06.2026)

Taking into account the additional information and the comments given by ESPRIM the peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
NED Computer Science	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031
NED Embedded Electronics and Telecommunications	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031
NED Mechatronics	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031

Prerequisites
For all programmes

V 1. (ASIIN 1.3, 1.6) Ensure alignment of the curriculum with EQF Level 7, in particular by increasing the depth and breadth of advanced content and reinforcing research-oriented as well as scientific components.

V 2. (ASIIN 2) Ensure that student reports as well as theses comply with academic and scientific standards, and with EQF level 7 in particular.

Requirements
For all programmes

A 1. (ASIIN 1.5) Establish a systematic monitoring of the students' workload.

A 2. (ASIIN 1.5) Verify the credits awarded to the internships and ensure that the credits align with the actual workload.

A 3. (ASIIN 1.6) Ensure that students are systematically trained in scientific working methods and independent academic work.

A 4. (ASIIN 2, 4.3) Establish comprehensive examination regulations that clearly define the rights and duties of both ESPRIM and the students, particularly with regard to the final project. Afterwards, make sure that the regulations are accessible to students and stakeholders.

A 5. (ASIIN 3.1) Establish and implement measures to strengthen the research activity and academic development of teaching staff and ensure that these activities are reflected in teaching content, supervision, and the development of students' scientific competences.

A 6. (ASIIN 3.3) Establish an adequately equipped library that provides structured and independent access for students and teaching staff to current academic literature, as well as to relevant scientific databases such as IEEE, ACM and Springer.

A 7. (ASIIN 4.1) Ensure that all module descriptions are comprehensively revised, standardized, and made accessible to students. This includes consistent module titles across documents, complete module information, accurate references to scientific sources, the inclusion of module description for the final thesis, and an overall uniform format and level of detail across all modules.

Recommendations
For all programmes

E 1. (ASIIN 1.4) It is recommended to review and revise the admission procedure in order to improve the alignment between applicants' prior qualifications and the academic level of the programmes.

E 2. (ASIIN 1.3, 3.1) It is recommended that student and academic mobility is further fostered.

E 3. (ASIIN 3.3) It is recommended to modernise laboratory equipment, establish a dedicated and up-to-date computer room, and enhance student facilities by providing additional study and social spaces.

For the NED programme Computer Science

E 4. (ASIIN 1.2) It is recommended that the title of the programme is reconsidered so that it more accurately reflects its content.

For the NED programmes Embedded Electronics and Telecommunication and Mechatronics

E 5. (ASIIN 1.3) It is recommended to establish electives.

H Comment of the Technical Committees (17.06.2026)

Technical Committee 01 – Mechanical Engineering/Process Engineering (11.06.2026)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and follows the assessment of the experts without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programme in mechatronics do not comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 01 – Mechanical Engineering/Process Engineering.

The Technical Committee 01 – Mechanical Engineering/Process Engineering recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
NED Mechatronics	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031

Technical Committee 02 – Electrical Engineering/Information Technology (17.06.2026)

Assessment and analysis for the award of the ASIIN seal:

The technical committee discusses the procedure and agrees with the experts' vote overall. However, they suggest extending requirement A4 with regard to the guidelines for the final project/thesis, or rather underlining that this document is required as well since it is something that can be easily checked for compliance with academic standards, and also assists the institution in clarifying to students the exact guidelines that should be followed when carrying out the final project/thesis, given the clear deficits in compliance with academic standards in this area indicated by the report.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programmes do not comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 02 – Electrical Engineering/Information Technology.

The Technical Committee 02 – Electrical Engineering/Information Technology recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
NED Computer Science	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031
NED Embedded Electronics and Telecommunications	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031
NED Mechatronics	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031

Technical Committee 04 – Informatics/Computer Science (09.06.2026)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the procedure and follows the assessment of the experts without any changes.

The Technical Committee 04 – Informatics/Computer Science recommends the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
NED Computer Science	Suspension	30.09.2031	EUR-ACE®	Suspension/ 30.09.2031

I Decision of the Accreditation Commission (26.06.2026)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The commission discusses the procedure and follows the experts' vote as well as the changes suggested by TC 02.

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do not comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 01 and 02.

The Accreditation Commission decides to award the following seals:

Degree Programme	**ASIIN Seal**	**Accredited by German Engineers**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation***
NED Computer Science	Suspension	Suspension	30.09.2031	EUR-ACE®	Suspension
NED Embedded Electronics and Telecommunications	Suspension	Suspension	30.09.2031	EUR-ACE®	Suspension
NED Mechatronics	Suspension	Suspension	30.09.2031	EUR-ACE®	Suspension

*Subject to the approval of the ENAEE Administrative Council

Prerequisites

For all programmes

V 1. (ASIIN 1.3, 1.6) Ensure alignment of the curriculum with EQF Level 7, in particular by increasing the depth and breadth of advanced content and reinforcing research-oriented as well as scientific components.

V 2. (ASIIN 2) Ensure that student reports as well as theses comply with academic and scientific standards, and with EQF level 7 in particular.

Requirements

For all programmes

A 1. (ASIIN 1.5) Establish a systematic monitoring of the students' workload.

A 2. (ASIIN 1.5) Verify the credits awarded to the internships and ensure that the credits align with the actual workload.

A 3. (ASIIN 1.6) Ensure that students are systematically trained in scientific working methods and independent academic work.

A 4. (ASIIN 2, 4.3) Establish comprehensive examination regulations and guidelines that clearly define the rights and duties of both ESPRIM and the students, particularly with regard to the final project. Afterwards, make sure that the regulations and guidelines are accessible to students and stakeholders.

A 5. (ASIIN 3.1) Establish and implement measures to strengthen the research activity and academic development of teaching staff and ensure that these activities are reflected in teaching content, supervision, and the development of students' scientific competences.

A 6. (ASIIN 3.3) Establish an adequately equipped library that provides structured and independent access for students and teaching staff to current academic literature, as well as to relevant scientific databases such as IEEE, ACM and Springer.

A 7. (ASIIN 4.1) Ensure that all module descriptions are comprehensively revised, standardized, and made accessible to students. This includes consistent module titles across documents, complete module information, accurate references to scientific sources, the inclusion of module description for the final thesis, and an overall uniform format and level of detail across all modules.

Recommendations

For all programmes

E 1. (ASIIN 1.4) It is recommended to review and revise the admission procedure in order to improve the alignment between applicants' prior qualifications and the academic level of the programmes.

E 2. (ASIIN 1.3, 3.1) It is recommended that student and academic mobility is further fostered.

E 3. (ASIIN 3.3) It is recommended to modernise laboratory equipment, establish a dedicated and up-to-date computer room, and enhance student facilities by providing additional study and social spaces.

For the NED programme Computer Science

E 4. (ASIIN 1.2) It is recommended that the title of the programme is reconsidered so that it more accurately reflects its content.

For the NED programmes Embedded Electronics and Telecommunication and Mechatronics

E 5. (ASIIN 1.3) It is recommended to establish electives.

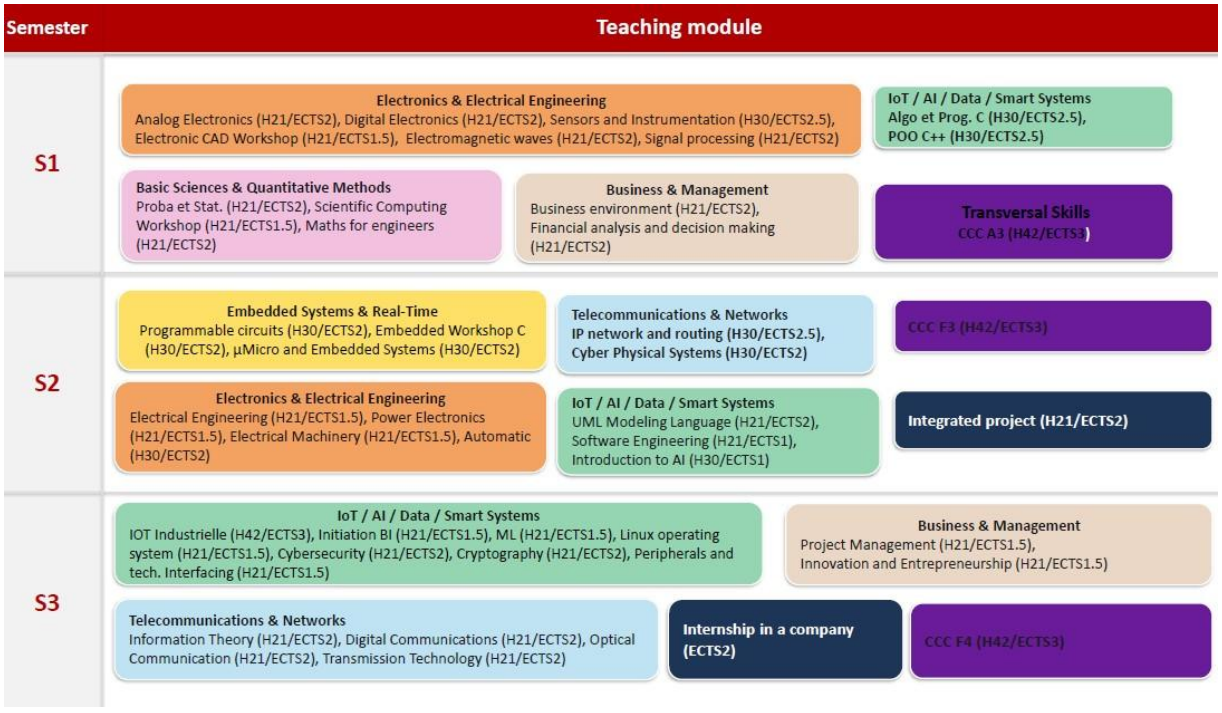
Appendix: Programme Learning Outcomes and Curricula

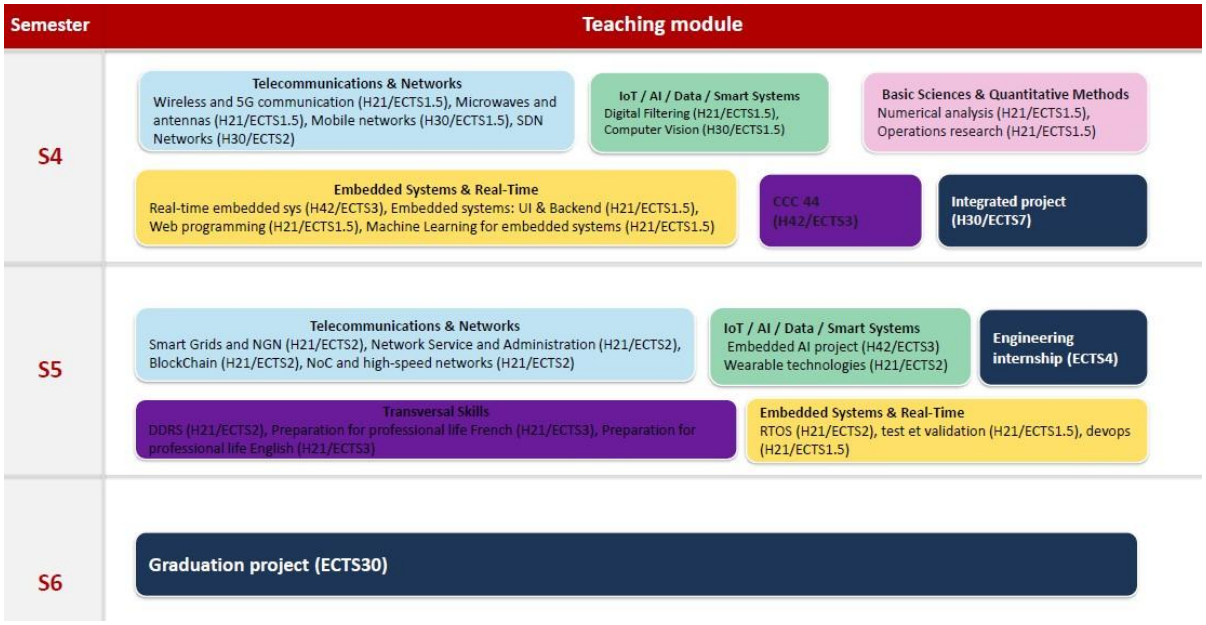
According to the Diploma Supplement, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the National Engineering Degree programme in Embedded Electronics and Telecommunications:

"The program is designed to provide specialized theoretical knowledge and practical skills in embedded systems, electronics, and telecommunications. It aims to equip students with the necessary competencies to design, implement, and maintain intelligent and connected electronic systems, while also managing modern communication infrastructures. Through this comprehensive training, graduates of the program will acquire advanced knowledge in digital and analog electronics, embedded systems, telecommunications networks, signal processing, and system integration. In addition, they will develop practical expertise in hardware/software co-design, embedded programming, IoT architectures, and communication protocols.

Upon completing the program, graduates will be qualified to work as engineers in sectors such as automotive, aerospace, telecommunications, automation, and industrial systems, contributing to innovation and development both nationally and internationally."

The following **curriculum** is presented:





According to the Diploma Supplement, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the National Engineering Degree programme in Computer Science:

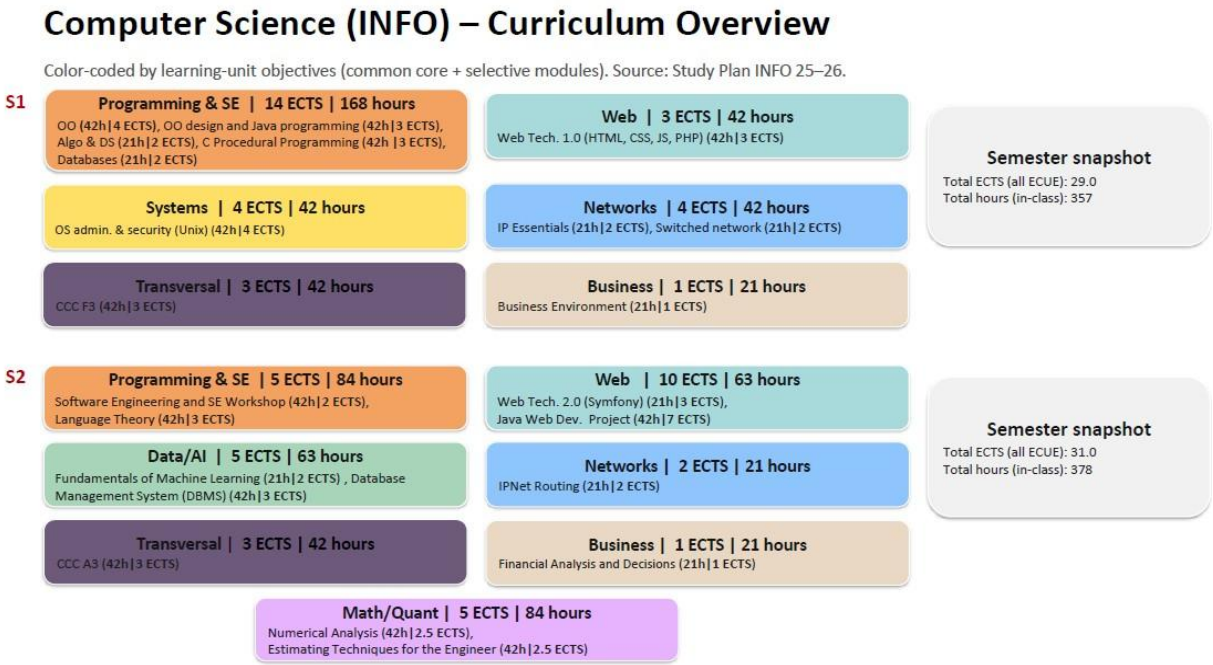
"The program aims to provide specialized theoretical knowledge as well as applied skills related to the study, design, and development of interactive technologies—technologies that engage with their users—and the analysis of user interactions with modern technologies.

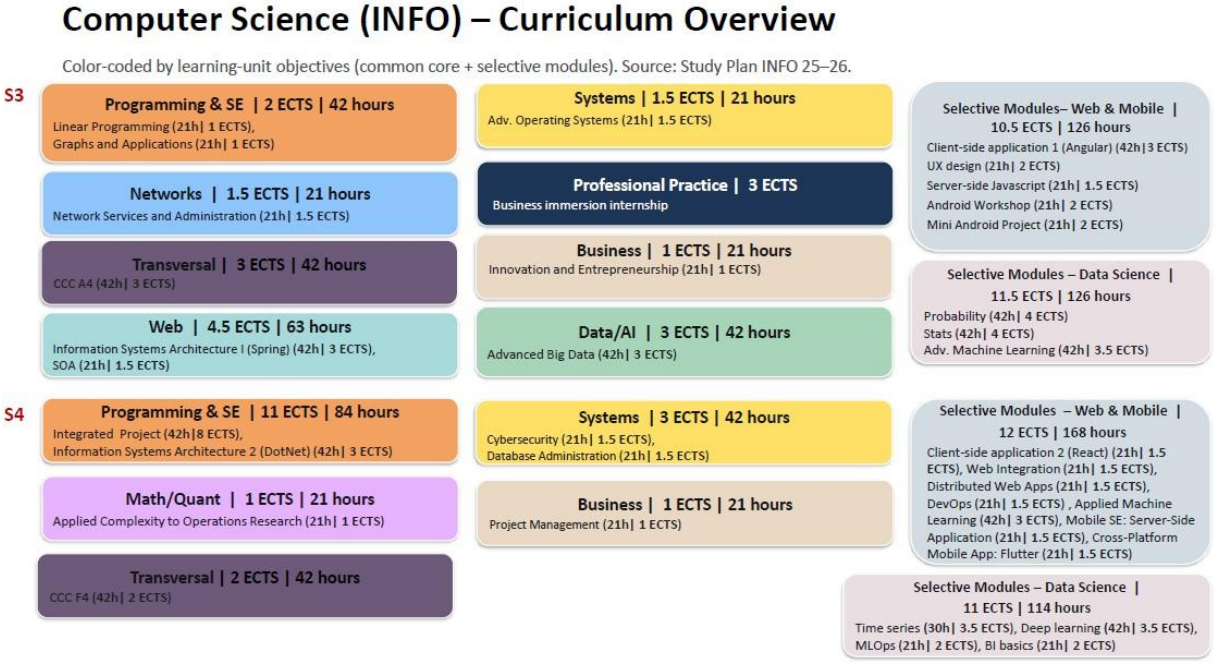
Graduates of this program will acquire:

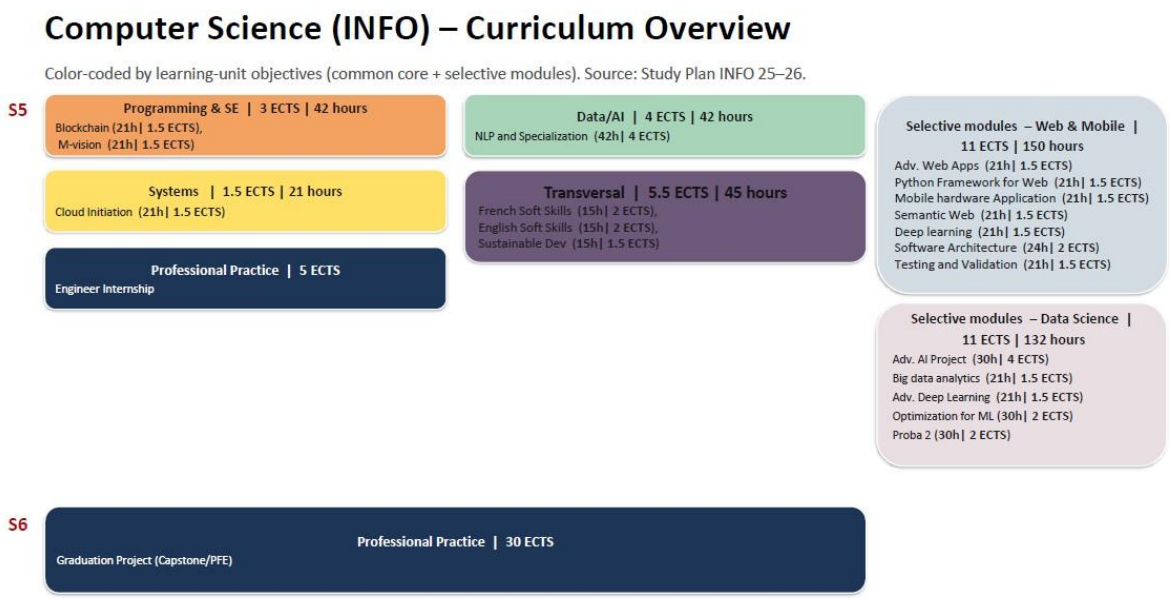
- Advanced knowledge in computer science, interactive systems, and web and mobile development.
- Practical skills to design and develop innovative interactive technologies and evaluate such systems effectively.

This program is designed for graduates of computer science, engineering, informatics, and related fields, who possess a foundational understanding of computer science and technology. Upon completing the program, graduates will become competent professionals capable of contributing to research and development in both the public and private sectors, in Tunisia and internationally."

The following **curriculum** is presented:


Computer Science (INFO) – Curriculum Overview
Color-coded by learning-unit objectives (common core + selective modules). Source: Study Plan INFO 25–26.
S1
Programming & SE | 14 ECTS | 168 hours
OO (42h|4 ECTS), OO design and Java programming (42h|3 ECTS), Algo & DS (21h|2 ECTS), C Procedural Programming (42h |3 ECTS), Databases (21h|2 ECTS)
Web | 3 ECTS | 42 hours
Web Tech. 1.0 (HTML, CSS, JS, PHP) (42h|3 ECTS)
Systems | 4 ECTS | 42 hours
OS admin. & security (Unix) (42h|4 ECTS)
Networks | 4 ECTS | 42 hours
IP Essentials (21h|2 ECTS), Switched network (21h|2 ECTS)
Transversal | 3 ECTS | 42 hours
CCC F3 (42h|3 ECTS)
Business | 1 ECTS | 21 hours
Business Environment (21h|1 ECTS)
Semester snapshot
Total ECTS (all ECUE): 29.0
Total hours (in-class): 357
S2
Programming & SE | 5 ECTS | 84 hours
Software Engineering and SE Workshop (42h|2 ECTS), Language Theory (42h|3 ECTS)
Web | 10 ECTS | 63 hours
Web Tech. 2.0 (Symfony) (21h|3 ECTS), Java Web Dev. Project (42h|7 ECTS)
Data/AI | 5 ECTS | 63 hours
Fundamentals of Machine Learning (21h|2 ECTS) , Database Management System (DBMS) (42h|3 ECTS)
Networks | 2 ECTS | 21 hours
IPNet Routing (21h|2 ECTS)
Transversal | 3 ECTS | 42 hours
CCC A3 (42h|3 ECTS)
Business | 1 ECTS | 21 hours
Financial Analysis and Decisions (21h|1 ECTS)
Math/Quant | 5 ECTS | 84 hours
Numerical Analysis (42h|2.5 ECTS),
Estimating Techniques for the Engineer (42h|2.5 ECTS)
Semester snapshot
Total ECTS (all ECUE): 31.0
Total hours (in-class): 378


Computer Science (INFO) – Curriculum Overview
Color-coded by learning-unit objectives (common core + selective modules). Source: Study Plan INFO 25–26.
S3
Programming & SE | 2 ECTS | 42 hours
Linear Programming (21h| 1 ECTS),
Graphs and Applications (21h| 1 ECTS)
Systems | 1.5 ECTS | 21 hours
Adv. Operating Systems (21h| 1.5 ECTS)
Selective Modules– Web & Mobile | 10.5 ECTS | 126 hours
Client-side application 1 (Angular) (42h|3 ECTS)
UX design (21h| 2 ECTS)
Server-side Javascript (21h| 1.5 ECTS)
Android Workshop (21h| 2 ECTS)
Mini Android Project (21h| 2 ECTS)
Networks | 1.5 ECTS | 21 hours
Network Services and Administration (21h| 1.5 ECTS)
Professional Practice | 3 ECTS
Business immersion internship
Transversal | 3 ECTS | 42 hours
CCC A4 (42h| 3 ECTS)
Business | 1 ECTS | 21 hours
Innovation and Entrepreneurship (21h| 1 ECTS)
Selective Modules – Data Science | 11.5 ECTS | 126 hours
Probability (42h| 4 ECTS)
Stats (42h| 4 ECTS)
Adv. Machine Learning (42h| 3.5 ECTS)
Web | 4.5 ECTS | 63 hours
Information Systems Architecture I (Spring) (42h| 3 ECTS),
SOA (21h| 1.5 ECTS)
Data/AI | 3 ECTS | 42 hours
Advanced Big Data (42h| 3 ECTS)
S4
Programming & SE | 11 ECTS | 84 hours
Integrated Project (42h|8 ECTS),
Information Systems Architecture 2 (DotNet) (42h| 3 ECTS)
Systems | 3 ECTS | 42 hours
Cybersecurity (21h| 1.5 ECTS),
Database Administration (21h| 1.5 ECTS)
Selective Modules – Web & Mobile | 12 ECTS | 168 hours
Client-side application 2 (React) (21h| 1.5 ECTS), Web Integration (21h| 1.5 ECTS), Distributed Web Apps (21h| 1.5 ECTS), DevOps (21h| 1.5 ECTS) , Applied Machine Learning (42h| 3 ECTS), Mobile SE: Server-Side Application (21h| 1.5 ECTS), Cross-Platform Mobile App: Flutter (21h| 1.5 ECTS)
Math/Quant | 1 ECTS | 21 hours
Applied Complexity to Operations Research (21h| 1 ECTS)
Business | 1 ECTS | 21 hours
Project Management (21h| 1 ECTS)
Transversal | 2 ECTS | 42 hours
CCC F4 (42h| 2 ECTS)
Selective Modules – Data Science | 11 ECTS | 114 hours
Time series (30h| 3.5 ECTS), Deep learning (42h| 3.5 ECTS), MLOps (21h| 2 ECTS), BI basics (21h| 2 ECTS)



According to the Diploma Supplement, the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the National Engineering Degree programme in Mechatronics:

- "Apply advanced scientific and engineering knowledge to mechatronic, electromechanical, robotic and automated industrial systems.
- Analyse, model, simulate, design, implement, test and optimise mechanical, electrical, embedded and control subsystems under technical constraints.
- Use CAD/CAE, simulation, programming, prototyping, measurement and industrial supervision tools for engineering design and validation.
- Integrate sensors, actuators, microcontrollers, embedded systems, industrial IoT and control techniques into coherent mechatronic solutions.
- Diagnose faults, evaluate reliability and operational safety, and apply maintenance, monitoring and quality assurance methods.
- Develop manufacturing, production and industrial management solutions using CAD/CAM, lean, scheduling and supply-chain-oriented approaches.
- Work effectively in multidisciplinary teams, communicate technical results, prepare reports and present engineering work to specialist and non-specialist audiences.
- Integrate ethical engineering, safety, sustainability, environmental responsibility and regulatory awareness into engineering decisions."

The following **curriculum** is presented:

Mechatronics								
	S1							
	Unit	Constituent elements of EU (ECUEF)		Hourly Volume			ECTS	
CODE UE	UE	Code	Modules	Vol. Hor. S1	P1	P2	ECUEF	UE
ME1S1.1	Electronics	ME1S1.1-AE	Analog Electronics	21	21		2	8
		ME1S1.1-DE	Digital Electronics	21		21	2	
		ME1S1.1-SI	Sensors and Instrumentation	30		30	2,5	
		ME1S1.1-CAOE	Electronic CAD Workshop	21		21	1,5	
ME1S1.2	Mechanical Design and Materials	ME1S1.2-SM	Strength of Materials	21	21		2,5	4
		ME1S1.2-CAOM	Mechanical Computer Aided Design - CAD	21	21		1,5	
ME1S1.3	Programming	ME1S1.3-ACP	Algorithms and C Programming	30	30		2,5	5
		ME1S1.3-OOP	Object Oriented Programming in C++	30		30	2,5	
ME1S1.4	Applied Mathematics	ME1S1.4-PS	Probability and Statistics	21		21	2	3,5
		ME1S1.4-SC	Scientific Computing Workshop	21		21	1,5	
		ME1S1.4-ME	Engineering Mathematics	21	21		2	3,5
		ME1S1.4-PW	Python Workshop	21	21		1,5	
ME1S1.5	Communication, Culture, and Citizenship	ME1S1.5-CCCA3	CCCA3	42	21	21	3	6
ME1S1.6	Business Management	ME1S1.6-BE	Business Environment	21	21		1,5	
		ME1S1.6-FA	Financial Analysis and Decision Making	21		21	1,5	
Total				**363**	**177**	**186**	**30**	**30**
Total Hourly Volume/week				**26**	**27**	**27**		

S2								
Unit		Constituent elements of EU (ECUEF)		Hourly Volume			ECTS	
CODE UE	UE	Code	Modules	Vol. Hor. S2	P1	P2	ECUEF	UE
ME1S2.1	Embedded Programming and FPGA	ME1S2.1-PC	Programmable Circuits	30	30		2	6
		ME1S2.1-EC	Embedded C Workshop	30		30	2	
		ME1S2.1-MC	Microcontrollers and Embedded Systems	30	30		2	
ME1S2.2	General Mechanics and Mechanical Actuators	ME1S2.2-CM	Continuum Mechanics - CM	21		21	2	4,5
		ME1S2.2-PHC	Pneumatic and Hydraulic Circuits	30	30		2,5	
ME1S2.3	Modeling and AI	ME1S2.3-SE	Software Engineering	21	21		1	5
		ME1S2.3-CPS	Cyber-Physical Systems	30		30	2	
		ME1S2.3-IAI	Introduction to AI	30		30	2	
ME1S2.4	Electrical Systems and Automation	ME1S2.4-EE	Electrical Engineering	21	21		1,5	4,5
		ME1S2.4-PE	Power Electronics	21	21		1,5	
		ME1S2.4-EM	Electrical Machines	21		21	1,5	
		ME1S2.4-CS	Control Systems	30		30	2	2
ME1S2.5	Communication, Culture, and Citizenship	ME1S2.5-CCCF3	CCC F3	42	21	21	3	3
ME1S2.6	Project	ME1S2.6-IP	Integrated Project	21	15	6	5	5
	Total			378	189	189	30	30
	Total Hourly Volume/week				27	27		
	Total Hourly Volume/Year			741				

Level 2 (description)

S1

Unit		Constituent elements of EU (ECUEF)		Hourly Volume			ECTS	
CODE UE	UE	Code	Modules	Vol. Hor. S1	P1	P2	ECUEF	UE
ME2S1.1	Modeling of Mechanical Systems	ME2S1.1-PT	Power Transmission	30	30		2	6
		ME2S1.1-VM	Vibratory Mechanics	21	21		2	
		ME2S1.1-MFEA	Modeling and Finite Element Analysis	30		30	2	
ME2S1.2	Automation	ME2S1.2-AS	Automated Systems	42	21	21	3	7,5
		ME1S2.6-ISS	Industrial Systems Supervision	42	21	21	3	
		ME2S1.2-EM2	Electrical Machines 2	21	21		1,5	
ME2S1.3	Embedded Electronics	ME2S1.3-LOS	Linux Operating Systems	21	21		1,5	3
		ME2S1.3-PTI	Peripherals and Interfacing Technologies	21		21	1,5	
ME2S1.4	IoT and Data Management	ME2S1.4-IOTI	Industrial IoT	42	21	21	3	4,5
		ME2S1.4-ML	Machine Learning	21		21	1,5	
ME2S1.5	Innovation and Management	ME2S1.5-PM	Project Management	21		21	1,5	3
		ME2S1.5-IE	Innovation and Entrepreneurship	21	21		1,5	
ME2S1.6	Communication, Culture, and Citizenship	ME2S1.6-CCCF4	CCC F4	42	21	21	3	3
ME2S1.7	Professional Experience	ME2S1.7-CII	Corporate Immersion Internship				3	3
Total				375	198	177	30	30
Total Hourly Volume/week				27	27	25		

	S2							
	Unit	Constituent elements of EU (ECUEF)		Hourly Volume			ECTS	
CODE UE	UE	Code	Modules	Vol. Hor. S2	P1	P2	ECUEF	UE
ME2S2.1	Mechanical Manufacturing	ME2S2.1-CFAO	Computer-Aided Design and Manufacturing (CAD/CAM)	30		30	1,5	5
		ME2S2.1-MP	Manufacturing Processes	30	30		2	
		ME2S2.1-NCM	Numerical Control Machine Technology	21		21	1,5	

ME2S2.2	Robotic Systems Environment	ME2S2.2-CMC	Control of Mechatronic Systems	42	21	21	3	9
		ME2S2.2-RTOS	Real-Time Embedded Systems	42	21	21	3	
		ME2S2.2-ROB	Robotics	42	21	21	3	
ME2S2.3	Image Processing	ME2S2.3-DF	Digital Filtering	21	21		1	3
		ME2S2.3-CV	Computer Vision	30		30	2	
ME2S2.4	Numerical Methods for Engineering	ME2S2.4-OR	Operations Research	21	21		1,5	3
		ME2S2.4-NA	Numerical Analysis	21	21		1,5	
ME2S2.5	Communication, Culture, and Citizenship	ME2S2.5-CCCA4	CCC A4	42	21	21	3	3
ME2S2.6	Project	ME2S2.6-IP	Integrated Project	30	9	21	7	7
Total				**372**	**186**	**186**	**30**	**30**
Total Hourly Volume/week				**27**	**27**	**27**		
Total Hourly Volume/Year				**747**				

Level 3 (description)

S1								
Unit		**Constituent elements of EU (ECUEF)**		**Hourly Volume**			**ECTS**	
CODE UE	**UE**	**Code**	**Modules**	**Vol. Hor. S1**	**P1**	**P2**	**ECUEF**	**UE**
ME3S1.1	Industrial Maintenance and Control Techniques	ME3S1.1-ROS	Reliability and Operational Safety	30	30		3	10
		ME3S1.1-IMT	Industrial Maintenance Techniques	30		30	3	
		ME3S1.1-MD	Monitoring and Diagnostics	21		21	2	
		ME3S1.1-ACT	Advanced Control Techniques for Mechatronic Systems	21		21	2	
ME3S1.2		ME3S1.2-SCM	Supply Chain Management	30	30		2	8
		ME3S1.2-LS	LEAN System	30		30	2	

	Industrial Flow and Production Operations Management	ME3S1.2-QM	Quality Management	21	21		2	
		ME3S1.2-SPM	Scheduling and Production Management	21	21		2	
ME3S1.3	Preparation for Professional Life	ME3S1.3-SDCSR	Sustainable Development and CSR	21	10,5	10,5	2	8
		ME3S1.3-PPLF	Preparation for Professional Life in French	21		21	3	
		ME3S1.3-PPLE	Preparation for Professional Life in English	21	21		3	
ME3S1.4	Internship	ME3S1.4-EI	Engineering Internship				4	4
Total				**267**	**133,5**	**133,5**	**30**	**30**
Total Hourly Volume/week				**19**	**19**	**19**		

	S2							
	Unit	Constituent eleEETnts of EU (ECUEF)		Hourly Volume				ECTS
CODE UE	UE	Code	Modules	Vol. Hor. Module	UE	P1	P2	ECUEF
ME3S2.1	Final Year Project	ME3S2.1-FP	Final year project					30