ASIIN Seal & Euro-Inf®

Accreditation Report

Master's Degree Programme
Computer Science and Multimedia Engineer Training Programme

Provided by
The Higher Institute of Multimedia Arts, University of Manouba

Version: 27 March 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]
Programme de formation Ingénieur Informatique et Multimédia	Computer Science and Multimedia Engineer Training Programme	ASIIN, Euro-Inf® Label	/	TC04
Date of the contract: 30.01.2024 **Submission of the final version of the self-assessment report:** 14.09.2025 **Date of the on-site visit:** 18./19.11.2025 **at:** Campus Universitaire de La Manouba, Tunis				
Expert panel: Prof. Dr. Harald Loose, Brandenburg University of Applied Sciences Prof. Dr. Paul Grimm, Darmstadt University of Applied Sciences Ahmed Boulahia, Mantu Lynn Mansour, Student at MedTech – Mediterranean Institute of Technology				
Representative of the ASIIN headquarters: Tamina Renner				
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 March 28, 2023				

[1] ASIIN Seal for degree programmes; Euro-Inf®: Label European Label for Informatics
[2] TC: Technical Committee for the following subject areas: TC 04 – Informatics/Computer Science.

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 27.03.2026.

Degree Programmes	ASIIN Seal	Validity	Euro-Inf®	Validity
Computer Science and Multimedia Engineer Training Programme	Accredited with requirements	27.03.2026 – 22.04.2027	Accredited with requirements	27.03.2026 – 22.04.2027

Fulfilment of the Accreditation Criteria

ASIIN General Criteria / Subject-Specific Criteria	Computer Science and Multimedia Engineer Training Programme
1 Degree Programme: Concept, Content & Implementation	
1.1 Objectives and learning outcomes (intended qualification profile)	**Not fulfilled** **Requirement A1**
1.2 Title of the degree programme	**Not fulfilled** **Requirement A2**
1.3 Curriculum	Fulfilled
1.4 Admission requirements	Fulfilled
1.5 Workload and credits	**Not fulfilled** **Requirements A3, A4**
1.6 Didactics and teaching methodology	Fulfilled
2 Exams: System, Concept and Organisation	
2 Exams: System, Concept and Organisation	Fulfilled

ASIIN General Criteria / Subject-Specific Criteria	Computer Science and Multimedia Engineer Training Programme
3 Resources	
3.1 Staff and staff development	Fulfilled
3.2 Student support and student services	Fulfilled
3.3 Funds and equipment	Fulfilled
4 Transparency and Documentation	
4.1 Module descriptions	**Not fulfilled** **Requirements A5, A6, A7**
4.2 Diploma and Diploma Supplement	**Not fulfilled** **Requirements A8, A9**
4.3 Relevant rules	**Not fulfilled** **Requirement A10**
5 Quality Management: Quality Assessment and Development	
5 Quality Management: Quality Assessment and Development	**Not fulfilled** **Requirements A11, A12**

Requirements

A 1. (ASIIN 1.1) Ensure that the intended learning outcomes are transparently published, making them accessible to all relevant stakeholders.

A 2. (ASIIN 1.2) Make sure that the English programme title (incl. the tracks) is used consistently in all relevant documents and publications.

A 3. (ASIIN 1.5) Evaluate the student workload transparently and award credits accordingly.

A 4. (ASIIN 1.5) Ensure that the credits awarded for the internship modules correspond with the actual workload of the students.

A 5. (ASIIN 4.1) Ensure that the module descriptions include information about the type of exams, calculation of the marks, a reading list and the date of the last amendment made.

A 6. (ASIIN 4.1) Provide module descriptions for all modules.

A 7. (ASIIN 4.1) Revise the module titles and module descriptions so that they adequately reflect the actual content on an EQF 7 level.

A 8. (ASIIN 4.2) Ensure that all graduates are provided a Diploma Supplement in English in line with the ASIIN criteria.

A 9. (ASIIN 4.2) Ensure that the Diploma Supplement includes the correct admission requirements.

A 10. (ASIIN 4.3) Ensure that all relevant study-related regulations as well as the module descriptions are publicly available and accessible to all stakeholders in a consistent and transparent manner.

A 11. (ASIIN 5) Ensure that students are informed about the evaluation results.

A 12. (ASIIN 5) Define and document formalised quality management processes and clearly defined responsibilities.

Accreditation History

The programme has not been previously accredited by ASIIN.

C Characteristics of the Degree Programme

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 and Multimedia Engineer Training Programme	The National Diploma for an Engineer in Applied Sciences and Technology, Specialization: Computer Science and Multimedia	Software Engineering, Imaging and Virtual Reality	7	Full time	/	6 semesters	180 ECTS	Annually, 2009/10

Contextualisation

For the Computer Science and Multimedia Engineer Training Programme (CSME), the institution has presented the following profile in the Self-Assessment Report (SAR):

"Established in May 2000, the Higher Institute of Multimedia Arts is a young institution that has matured over the years. It is well-known in Tunisia as being ISAMM (an acronym for the French appellation being l'Institut Supérieur des Arts Multimédias). ISAMM is affiliated with the University of Manouba, situated in the western suburbs of Tunis, the capital city of Tunisia. Since its inception, ISAMM has distinguished itself through the multi-disciplinarity of its programmes, the diversity of specialties of its teaching staff and the versatility of its graduates' profiles.

As a leading institution in Tunisia offering higher training in computer science, multimedia and audiovisual studies, ISAMM's goal is to combine a scientific and technical orientation in its training along with a creative spirit to give birth to graduates who are skilled in both fields. ISAMM is a member in the Réseau international Universitaire de création Numérique (RUN).

In the field of public higher education, ISAMM aims to:

- Be in sync with the digital age and to be a national pioneer in high-potential technological fields.
- Offer training programs geared toward future careers.
- Establish connections with the socio-professional world.

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

- Encourage participation in national and international challenges.
- Promote engagement with ecological concerns.
- Raise awareness about the challenges of Sustainable Development.

ISAMM's mission is to instill the values of sustainable development, to educate for the professions of the future and to foster creativity. ISAMM's motto is to innovate for a better future."

About the Study Programme

The programme in the SAR is described as follows: "The computer science and multimedia engineering degree, which is the subject of the current application for accreditation, is a 3-year degree programme that includes a year and a half of common core curriculum and a year and a half of major field. The programme comprises 2598.75 hours of supervised workload, resulting in a total workload of 5013.75 hours, equivalent to 180 ECTS credit points. […]

ISAMM's engineering degree in computer science and multimedia, entitled *National Degree for an Engineer in Applied Sciences and Technology*; *Specialization: Computer Science and Multimedia*, is structured around two major specialized tracks in line with current and future market demands:

- **Software Engineering:** by following this study track, engineers will be capable of mastering the software development processes by relying on techniques of modelling, design, development, and IT project management. These techniques facilitate the design of modern applications while ensuring the integration of various components (databases, network, graphical interface, etc.).
- **Imaging and Virtual Reality:** by following this study track, engineers will be able to design and develop augmented and virtual reality applications. They are also required to design and deploy immersive environments that meet new needs and usage patterns. […]

The learning outcomes cover fundamental, scientific, technical knowledge, technological, and soft skills needed for computer sciences engineering career graduation summarized by specific competencies, managerial and complementary skills."

Summary of the Assessment of the Experts

The experts note that the programme is well established and operates successfully. Students appear highly motivated and show a strong sense of identification with ISAMM, which reflects positively on the learning environment. The teaching staff appears equally

motivated and committed, contributing to an atmosphere of mutual support and engagement.

The close and constructive relationship between students and teachers fosters effective communication and facilitates academic success. The programme's strong performance is further demonstrated by its very low drop-out rate and high graduate employment rate, indicating an effective selection process and well-aligned curriculum.

Finally, the experts acknowledge the programme's well-developed cooperations with industry partners, which provide valuable practical relevance and enhance graduates' career prospects.

At the same time, the experts identify several areas for further development. These concern, in particular, the transparency and consistency of documentation, including the publication of intended learning outcomes, module descriptions, study regulations, and Diploma Supplements in line with ASIIN criteria. Clarification is also required regarding workload calculation, credit allocation, and the consistency of programme and module titles.

Further development potential is seen in the curricular structure, especially with regard to the number of modules and examinations, the definition of prerequisites, and the strengthening of international mobility opportunities. In addition, measures to support staff development, enhance English language proficiency, maintain laboratory infrastructure, and further improve the overall learning environment are considered beneficial for the continued advancement of the programme.

D Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content and Implementation

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

Evidence:

- Self-Assessment Report
- Samples of the Diploma Supplement
- Appendix: Alignment of Modules and Subject-Specific Criteria (A_Pgm_Ass-Mode_SSC-25)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, the programme aims to train students to become innovative and adaptable engineers equipped with both technical and soft skills relevant to the targeted professions.

The programme defines four main objectives, subdivided into eleven *Specific Learning Outcomes* (SLOs), which apply to both specialisation tracks. These cover the use of scientific tools and techniques, technological skills for application development and system integration, self-development, and communication and managerial skills. Each specialisation places a stronger emphasis on certain SLOs. The learning outcomes are anchored in the Diploma Supplement but not published elsewhere. The objectives and SLOs are additionally documented in full in the Appendix of this report.

The institution has also provided a mapping demonstrating how the subject-specific criteria of Technical Committee 04 – Informatics/Computer Science are implemented on the level of the individual modules, which the panel has reviewed and found to be comprehensible and coherent.

The SAR further states that graduates are prepared for various professional fields, including roles such as system architect, software development engineer, artificial intelligence

[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.

engineer, quality assurance manager, virtual reality developer, and game developer. These profiles reflect the needs of both national and international labour markets. Accordingly, the SLOs are designed to address the practical requirements of the engineering profession through targeted skill development.

The engineering cycle, as presented here, constitutes a particular feature of the Tunisian higher education system. It is a three-year programme that follows a Bachelor's degree and corresponds to the EQF level of a Master's qualification, although it is not formally classified as a Master's degree. Only graduates of this type of programme are legally entitled in Tunisia to use the professional title of "Engineer" and to obtain formal recognition by the relevant professional chamber.

After reviewing the documentation and examining the programme in detail, the experts found an exceptionally comprehensive curriculum. At first glance, several modules appeared to be introductory or foundational in nature and therefore more typical of Bachelor-level studies. However, through in-depth discussions with programme coordinators, teaching staff, industry representatives, and students, as well as through the inspection of examinations and final theses, the experts were able to confirm that the actual academic level reached in the modules goes beyond what the module descriptions initially suggested. The experts therefore conclude that the targeted academic qualification level and the corresponding EQF level are achieved. Likewise, the SSC and Euro-Inf criteria are fully addressed within the extensive curriculum. For additional remarks, see also Criteria 1.3 Curriculum and 4.1 Module Descriptions.

The experts also gained a clear impression that the institution systematically collects feedback on the programme objectives, learning outcomes, and curriculum, and that all elements are subject to an ongoing revision process involving all relevant stakeholders.

While the experts commend the substantive quality of the objectives and learning outcomes, they note that the structuring and wording are at times somewhat diffuse or insufficiently clear. For instance, SLO10 (*Master managerial skills and industrial cultures*) is allocated to Objective 3 (*Self-development, innovation & projects*), although Objective 4 is entitled *Communication & managerial skills*.

The experts' primary criticism concerns the fact that the programme objectives and learning outcomes are currently not published beyond the Diploma Supplement. The institution must therefore ensure that the qualification objectives are made accessible to all relevant stakeholders and that these stakeholders are able to consult and refer to them.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-Assessment Report
- Samples of the Diploma and the Diploma Supplement
- Discussions during the audit

Preliminary assessment and analysis of the experts:

The official title of the degree programme and its two specialised tracks in Arabic, French, and English can be found in the following table from the SAR:

Language	Title of the degree programme	Specialized Track	
Original	الشهادة الوطنية لمهندس في العلوم التطبيقية و التكنولوجيا. اختصاص : إعلامية و ملتميديا	هندسة البرمجيات	الصور الرقمية والواقع الافتراضي
French	Diplôme National d'Ingénieur en Sciences Appliquées et en Technologie, Spécialité « Informatique et MultiMedia »	INgénierie du LOGiciel (INLOG)	Image Numérique et REalité Virtuelle (INREV)
English	National Degree for an Engineer in Applied Sciences and Technology; Specialization: Computer science and Multimedia	Software Engineering	Imaging and Virtual Reality

According to the SAR, the programme title reflects the objectives and intended learning outcomes in line with labour market requirements. It is clear, complies with Tunisian education regulations, and appropriately represents both specialisations in computer science and multimedia.

The experts confirm that the programme title adequately reflects the intended objectives and learning outcomes as well as the teaching and learning content of the degree programme. The official name, as presented in the SAR, is clear, aligns with Tunisian higher education regulations, and appropriately represents the content.

However, the experts note that the English designation of the programme is not used consistently across the submitted documentation. Even within the SAR, different formulations appear—for example, "Computer Science and Multimedia Engineer Training Programme" at one point, whereas later the programme is referred to as "National Degree for an Engineer in Applied Sciences and Technology; Specialization: Computer Science and Multimedia" as the official title. The Diploma Supplement uses yet another variation ("National degree for engineer in applied sciences and technology specialization"), and the Diploma itself

states: “The National Diploma for an Engineer in Applied Sciences and Technology Specialization: Computer Science and Multimedia.” Moreover, during the site visit, the experts observed that in at least one example of a Diploma Supplement, the name of the specialisation listed under section 2.2 (“Main field(s) of study covered by the diploma”) deviated from the wording presented in the table included in the SAR.

The programme representatives assured the panel that the official title is the one provided in the table in the SAR and explained that the inconsistencies are solely the result of variations in the English translation. They clarified that the official titles in French and Arabic are used consistently across all internal and external documents and do not display such discrepancies. Nonetheless, for reasons of transparency and clarity, the institution must ensure the consistent use of the English name of the degree programme—including the names of the specialised tracks—across all official documents, including the Diploma Supplement (see also Criterion 4.2 Diploma and Diploma Supplement).

Criterion 1.3 Curriculum

Evidence:

- Self-Assessment Report
- Appendix: Alignment of Modules and Subject-Specific Criteria (A_Pgm_Ass-Mode_SSC-25.xlsx)
- Appendix: Curricular Overview (A_Curriculum_Details-25.xlsx)
- Appendix: Module descriptions (A4.1_Modules Description-25.pdf)
- Appendix: Overview of Industrial Collaboration Partners (A.1.6_Parteners.pdf)
- Appendix: Internship Booklet (Internship_Booklet_ISAMM_25.pdf)
- Appendix: Curriculum Review (A1.3.5_Curriculum-Review-25.xlsx)
- Appendix: Survey Analysis (A1.3.5_Survey_Analysis_ING2_S1_2122-En.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:

Content and Structure of the Programme

According to the SAR, the CSME programme at ISAMM is a three-year programme consisting of six semesters. The first semesters are dedicated to coursework and specialised studies. The curriculum is structured into coherent modules covering fundamental scientific subjects, technical basics, and specialised areas of study. Particular emphasis is placed on

language proficiency and the development of soft skills such as communication, entrepreneurship, and personal development.

From the fourth semester onwards, students choose one of two specialisation tracks:

- Software Engineering (in French: *Ingénierie Logicielle*, INLOG)
- Imaging and Virtual Reality (in French: *Imagerie Numérique et Réalité Virtuelle*, INREV)

The INLOG track includes advanced modules in software modelling, databases, back-end and front-end development, distributed and parallel systems, software architecture, and network technologies. In the later semesters, the curriculum comprises modules such as DevOps, Agile Methodology (SCRUM), Web Services Engineering, Software Quality, Advanced Machine Learning, and Information Systems Security, as well as framework-based development.

The INREV track includes modules in image synthesis, 3D programming, modelling of virtual environments, image processing, and computer vision. In the advanced semesters, further modules address haptics, physics-based animation and simulation, AR/VR application development, narrative design of immersive content, and real-time 3D development.

As outlined in the SAR, the allocation of students to one of the specialised tracks is based on both academic ranking and personal preference. Ranking is determined by the students' average grades from the first year as well as performance in subjects related to the intended track (e.g. web programming for INLOG, foundations of multimedia for INREV). Two specialisation modules are integrated into the common core curriculum in semester 4, while semester 5 further reinforces specialisation through five modules across both tracks.

Elective modules are also offered in semesters 4 and 5, enabling students to tailor their studies according to their interests and career objectives. Two elective subjects are available in semester 4 and another two in semester 5 for each track.

The SAR explains that the final semester (Semester 6) is devoted to the *End-of-Study/Graduation Project* (in French: *Projet de Fin d'Études,* PFE). This internship, lasting between four and six months, is carried out individually in an IT company or research laboratory. Each student is supervised jointly by a company mentor and an ISAMM tutor, who monitors progress, ensures alignment with curricular objectives, and supports the preparation of the internship report and final oral defence. Successful completion of the project, including the report and presentation before an examination jury, awards 30 ECTS credits.

Students are gradually introduced to practical experience throughout the programme. In the earlier stages, they are required to complete summer internships of one to two months

during the first and second years. The SAR explains that the *Introductory Internship* in the first year familiarises students with the professional environment, while the *Advanced Internship* in the second year focuses on the application of technical skills. After each internship, students must submit a concise report outlining their activities, which is assessed and validated by a panel of ISAMM lecturers.

The experts confirm that the curriculum is thematically comprehensive and largely coherent in its structure, enabling students to complete the programme within the standard period of study. It allows students to achieve the intended learning outcomes, as learning outcomes are defined for each module and the overall programme objectives can be attained through the curriculum design. The panel notes that each module represents a well-aligned unit of teaching and learning, clearly specifying the knowledge, skills, and competences to be acquired. The sequencing of modules is considered appropriate, ensuring the progressive development of competences and supporting timely completion of the programme.

The existence of two specialisation tracks allows students to set individual academic focal points, thereby providing structured opportunities for differentiation within the programme. In addition, the elective modules offered in the later semesters further enhance individualisation and flexibility in module selection. The experts regard the content of both tracks as appropriate and consistent with the programme's objectives.

The panel further notes that the two summer internships are based on national regulations and are formally integrated into the curriculum, as is the final graduation project. These practical components are considered well integrated into the programme structure. The panel found that the internships and the graduation project are accompanied by institutional supervision and structured in a way that enables the institution to ensure their quality.

At the same time, the experts identify areas for further development. The curriculum is very broad in scope and covers a wide range of sub-disciplines within computer science, including theoretical foundations, applied IT, multimedia, etc. During the audit discussions, the panel expressed the impression that a considerable number of modules are designed as introductory or foundational modules, which, based on their descriptions, appear to correspond more closely to EQF Level 6. This impression was supported by the content outlined in the module descriptions. Examples include *Operating Systems, Digital Circuits, Compilation, Routing and Switching* or *Network Certification Training*.

The programme coordinators explained that this is primarily a matter of presentation. According to their statements, the modules are in fact taught at a significantly deeper level than is reflected in the documentation, while acknowledging that this depth is not always

clearly visible in the written descriptions. Based on the discussions with stakeholders as well as the review of the final theses and examinations, the experts are convinced that students are able to achieve the intended learning outcomes at EQF Level 7. The panel therefore considers this less a structural deficiency than a documentation issue; however, it is essential that the expected level is consistently reflected in the module descriptions (see also Criterion 4.1 Module Descriptions).

A further consequence of the broad thematic scope of the curriculum is that it appears highly fragmented, consisting of numerous comparatively small modules. Although students did not explicitly report an excessive examination burden, such a structure may nevertheless restrict the opportunity to develop sufficient academic depth within individual subject areas. Without prescribing specific structural changes, the experts consider it advisable for the institution to critically review the necessity and scope of individual modules. The panel therefore encourages a revision of the curriculum and recommends streamlining it in order to reduce the number of modules and examinations, thereby allowing for greater academic depth and closer alignment with labour market requirements (see also Criterion 2 Exams).

Furthermore, the experts note that the prerequisites indicated in the module descriptions sometimes refer only to general prior knowledge rather than to specific modules. For greater transparency and clarity, it is recommended that prerequisites be formulated with reference to concrete modules.

The panel also observes that prerequisites are assigned to modules already in the first semester, which may unnecessarily hinder students at the beginning of their studies. During the discussions, the programme representatives indicated that this practice is common; however, they acknowledged the concerns raised by the experts. Against this background, it is recommended to refrain from assigning prerequisites to modules scheduled in the first semester in order to further enhance student progression and the feasibility of the study programme.

Student Mobility

According to the SAR, ISAMM promotes international mobility by enabling engineering students to complete their graduation projects at foreign institutions, particularly research laboratories.

Mobility is supported through several mechanisms. Ministry and Rectorate Scholarships are awarded annually to top-performing students based on a merit ranking within the INLOG and INREV tracks. Typically, two or three students per year receive funding to undertake a four-month internship abroad.

Further opportunities arise from collaborative projects between ISAMM faculty and partner institutions abroad, allowing students to participate in international research initiatives. Students may also pursue individually arranged internships, particularly in the industrial sector, by applying directly to host organisations.

The SAR emphasises that, in all cases, students benefit from dual supervision: academic guidance from ISAMM and professional or academic oversight from the host institution, ensuring consistent academic monitoring and support throughout the internship period.

In terms of outgoing mobility, two students studied abroad in the academic year 2021/22, three in 2022/23, and two in 2023/24. In addition, six students completed their graduation project in cooperation with foreign partner institutions in 2023/24.

The experts welcome the fact that internationalisation forms part of ISAMM's strategic objectives, explicitly aiming to boost national and international visibility. In particular, the promotion of internships and graduation projects abroad is viewed positively.

However, it was not evident to the panel to what extent the curriculum facilitates student mobility during the semester, for example through the provision of a structured mobility window. Students also expressed a wish for expanded opportunities to gain international experience within the framework of their studies. The panel therefore recommends further strengthening and structurally embedding opportunities for international mobility. This should also include improved and more transparent information on available mobility schemes and scholarships, as satisfaction with the information provided in this regard was comparatively low in the survey results presented in the SAR.

Furthermore, transparent and binding regulations for the recognition of credits earned outside ISAMM must be ensured. During the discussions, the institution indicated that recognition does not generally pose difficulties, particularly in the case of partner institutions, and students reported no known cases of recognition problems. While the panel welcomes this positive practice, it considers it essential that formalised, written, and publicly accessible regulations on credit recognition be established and made available. The institution is therefore requested to submit, as part of its formal statement, the applicable regulations governing the recognition of credits earned at other higher education institutions, including those obtained abroad.

Periodic Review of the Curriculum

The institute states in the SAR, that the curriculum of the CSME programme is reviewed regularly to ensure that it remains aligned with the evolving requirements of the profession. Given the rapid development of technologies and software practices, periodic reforms

are introduced to integrate new trends and maintain the programme's relevance to industry needs.

Curriculum reviews involve various stakeholders, including students, faculty members, and industry representatives, under the oversight of an Engineering Commission composed of academic staff from different disciplines and external experts. This body is responsible for the continuous improvement of the programme, analysing the results of graduate, diploma, and student surveys to identify areas for enhancement and to initiate curriculum updates where necessary.

A major curriculum reform took place in 2019, followed by another revision implemented in 2023–2024. The reforms aimed to optimise student workload, enhance module coherence, and strengthen project-based learning. Key changes included the reorganisation of module groups, workload adjustments, the removal of certain modules (e.g. *Real-Time Systems*), and the introduction of new ones such as *Software Testing*, *DevOps*, and *Computer Vision*. Optional modules were also added in semesters 4 and 5 to increase flexibility.

The panel positively acknowledges that the curriculum is subject to regular review and updating. During the discussions, the experts were informed that minor adjustments are implemented each semester, while a comprehensive curriculum revision takes place every three years. These revisions are based on feedback from relevant stakeholders, including students, graduates, and industry representatives. The panel notes that the review process addresses the implementation of the programme objectives and considers whether the structure and sequencing of modules enable students to complete the programme within the standard period of study. Curricular changes are systematically documented, and selected examples of implemented revisions are outlined in the SAR.

Criterion 1.4 Admission Requirements

Evidence:

- Self-Assessment Report
- Appendix: Decree on the General Framework for the National Engineering Diploma (A1_Decree_95_2602-En.pdf)
- Appendix: Admission Procedure (A1.4_Admission Procedure.pdf)
- Appendix: Decree on the Rules for Studies and Examinations at ISAMM (A2_Regulation_training_En.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, admission to the programme is regulated by a national entrance examination organised annually by the Ministry of Higher Education and Scientific Research (MHESR). Graduates in computer science and related fields may apply for entry into the first year, while holders of a Master's degree in computer science or an equivalent qualification may apply for direct admission into the second year. Applications are submitted via a national online platform, where an initial score based on multiple criteria, including their academic performance throughout their Bachelor's degree, age, grades obtained in English and French, etc., is automatically calculated. ISAMM then verifies the applications of candidates who have selected its programme and calculates an internal score, with particular emphasis on scientific and technical subjects. A global score is subsequently generated, and final placement is determined by the platform based on rankings, programme preferences, and available capacity.

National regulations provide for two admissions lists: List A for ISAMM graduates (up to 40% of the intake) and List B for candidates from other institutions (60%). Recent admission data show that acceptance rates for List A candidates stabilised at around 57% in 2024, while those for List B candidates remained low at 6.5% to 13%.

The rules defining which academic qualifications are recognised for admission are set out in Article 3 of the *Decree on the Rules for Studies and Examinations at ISAMM*.

At the beginning of the audit, some uncertainty arose within the panel regarding the classification of the National Degree and the precise admission requirements. In particular, references in certain Diploma Supplements to a broader range of prior study programmes (e.g. Communication) initially raised questions as to how sufficient subject-related prior knowledge in computer science is ensured. During the discussions, the institution clarified that admission to ISAMM's engineering cycle requires a Bachelor's degree in Computer Science. The inclusion of other fields in individual Diploma Supplements was identified as an error and must be corrected (see Criterion 4.2 Diploma and Diploma Supplement).

In addition to holding a relevant Bachelor's degree, applicants must pass a highly competitive national entrance examination, which enables ISAMM to select academically qualified candidates. The effectiveness of this selection process is reflected in the very low drop-out rate. The panel therefore concludes that the admission system is effective in selecting qualified applicants with sufficient subject-related prior knowledge. However, it remains unclear where these admission rules are formally published and made accessible to prospective candidates (see Criterion 4.3 Relevant Rules).

Criterion 1.5 Workload and Credits

Evidence:

- Self-Assessment Report
- Appendix: Module descriptions (A4.1_Modules Description-25.pdf)
- Appendix: Internship Booklet (Internship_Booklet_ISAMM_25.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:

According to the SAR, the academic calendar is structured into 15 weeks per semester dedicated to lectures, practical sessions, and project work. One week in the middle of the semester is allocated to partial (mid-term) examinations. At the end of the semester, students sit for final examinations during one examination week. This is followed by a two-week resit period for students who have not successfully completed parts of their assessments.

The SAR states that an academic year corresponds to 60 ECTS credits and comprises an average total workload of approximately 1,671 hours. Of these, 867 hours are designated as supervised workload, including 759 contact hours, with the remaining supervised hours referring to additional guided learning activities beyond traditional classroom teaching. All compulsory elements of the programme are scheduled within this supervised workload framework.

ECTS credits are calculated on the basis of the total workload associated with each module. This includes lectures, directed work, practical sessions, personal practical work, and project components, as well as the overall complexity of the module. According to the SAR, one ECTS credit corresponds to a workload of 25 to 30 hours, typically consisting of 15 hours of supervised activities and 15 hours of independent study.

The panel confirms that the institution has implemented a credit system based on student workload, namely the ECTS system. The workload is divided into contact hours and self-study time, and all compulsory components of the study programme are included in the calculation. The programme awards a total of 180 ECTS credits; upon successful completion, and including the preceding Bachelor's degree, students obtain an overall total of 360 ECTS credits.

During the discussions, students confirmed that the workload is generally feasible and that structural workload peaks are avoided. Overall, the workload appears manageable and allows the programme to be completed within the standard period of study.

However, the panel identifies areas for improvement. According to the SAR, one ECTS credit corresponds to 25–30 hours of student workload. A review of the module

descriptions indicates that this range is not consistently applied and, in some cases, appears to be undercut, e.g. in *UX Design, Public Speaking in French 1,* and *English for IT 2*. It is essential that the workload assigned to one ECTS credit is clearly defined and applied uniformly across all modules. In its current form, it is not fully evident that credits are awarded strictly on the basis of the actual student workload. The institution must therefore ensure that the workload corresponding to one ECTS credit is determined transparently and applied consistently for the allocation of credits.

In addition, the panel notes inconsistencies regarding the credit allocation, e.g. for the two summer internships (*Introductory Internship* and *Advanced Internship*). According to the SAR, both internships last at least one month; however, the first internship is awarded 1 ECTS credit and the second 2 ECTS credits. Given the duration of the internships, the actual student workload appears to exceed the workload associated with the awarded credits. The institution explained that the second internship is considered more demanding due to the students' advanced level of study. Since ECTS credits are based on workload rather than academic level, this justification does not sufficiently clarify the discrepancy. Furthermore, the internships are not fully described in the module handbook (see Criterion 4.1 Module Descriptions), which limits transparency. The institution must therefore ensure that the credits awarded for the internship modules correspond to the actual student workload.

Finally, the method by which student workload is evaluated is not entirely clear. The panel therefore requests that the institution provide the relevant workload surveys and supporting documentation to substantiate the workload calculations.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-Assessment Report
- Appendix: Module descriptions (A4.1_Modules Description-25.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:

According to the SAR, the engineering cycle at ISAMM employs five main forms of teaching and learning: integrated courses, directed works, practical works, projects, and internships.

- Integrated courses combine lectures with elements of directed and/or practical work and project components.

- Directed works are designed to promote interaction between students and instructors and to support the application of theoretical knowledge to problem-solving tasks.
- Practical works enable students to apply theoretical concepts in computer science to concrete technical tasks, thereby strengthening their technical competences.
- Projects are conducted outside regular classroom teaching and may involve research, design, implementation, reporting, and presentation tasks.
- Internships carried out in companies or laboratories allow students to apply their knowledge in professional environments.

The SAR further states that the majority of modules are delivered face-to-face and that various didactic approaches are applied depending on the module. Teaching is largely based on active pedagogy and learning projects (project-based learning). Active pedagogy includes interactive formats such as group discussions, case studies, presentations, and hands-on activities, aiming to foster student engagement and practical application of knowledge. To support this approach, training sessions on active pedagogy have been offered to teaching staff. Learning projects are integrated throughout the curriculum to promote the practical application of theoretical knowledge while fostering collaborative, problem-oriented learning and strengthening soft skills such as critical thinking and problem-solving.

The panel confirms that a variety of teaching methods and didactic approaches are employed to support the achievement of the intended learning outcomes and to promote student-centred learning and teaching. The institution applies a balanced combination of digital and face-to-face teaching formats, supported by appropriate working infrastructures.

The degree programme also provides an adequate balance between contact hours and self-study time, which was confirmed by the students during the discussions. The various project formats introduce students to independent scientific work and foster the development of analytical and research-oriented competences.

Furthermore, the panel notes that the didactic suitability of the teaching methods used forms part of the regular review process, thereby contributing to the continuous enhancement of teaching quality.

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

Criterion 1.1

In its statement, ISAMM acknowledges that the intended learning outcomes are currently embedded in institutional documents but are not yet systematically published in a centralised and fully transparent manner. The institution confirms that the intended learning outcomes will be published on the official website, clearly integrated into the programme description, and consistently reflected in the revised module handbook, thereby ensuring full accessibility for all stakeholders. The experts welcome these planned measures and maintain the requirement until the announced steps have been fully implemented.

Criterion 1.2

In its statement, the higher education institution indicates that the English programme title "National Diploma for an Engineer in Applied Sciences and Technology – Specialization: Computer Science and Multimedia" will be used consistently across all official documents, publications, and the Diploma Supplement in the future. The experts take note of this commitment. The requirement remains in place until the consistent implementation has been completed and the corresponding evidence has been submitted.

Criterion 1.3

In the context of its statement, ISAMM has submitted additional documents regarding the recognition of credits. The institution explains that the recognition of credits earned at other higher education institutions, including those obtained abroad, is already implemented in practice within the framework of international mobility agreements. In particular, exchanges within the Erasmus+ programme are organised on the basis of prior academic coordination and formal equivalence mapping of modules and ECTS credits between partner institution. According to ISAMM, course contents, intended learning outcomes, and credit allocations are aligned in advance through Learning Agreements. At the same time, the institution states that these procedures will be consolidated into a formal written regulation, made publicly accessible, and integrated into the quality management documentation.

The experts welcome the explanations and the submitted documents. They acknowledge that procedures for the recognition of credits from other higher education institutions, including those obtained abroad, are already implemented in practice and that corresponding regulations are in place.

Criterion 1.5

In its statement, ISAMM confirms that the methodology used to calculate the student workload will be formally documented. Furthermore, the institution states that the internship modules will be reviewed to ensure that the awarded ECTS credits correspond to the actual student workload and that the relevant supporting documentation will be integrated

into the quality management framework. The experts welcome these planned measures. Until the implementation has been completed and documented, the requirements to evaluate the student workload transparently and award credits accordingly, as well as to ensure that the credits awarded for the internship modules correspond to the actual workload of the students, remain in place.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Self-Assessment Report
- Appendix: Decree on the General Framework for the National Engineering Diploma (A1_Decree_95_2602-En.pdf)
- Appendix: Decree on the Rules for Studies and Examinations at ISAMM (A2_Regulation_training_En.pdf)
- Appendix: Internal Assessment Regulations (2022/23) (A4.3_Internal_Assessment_Regulations-En.pdf)
- Appendix: Module descriptions (A4.1_Modules Description-25.pdf)
- Appendix: ISAMM Student Charter (A1_Student Charter ISAMM.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, the examination and assessment system is based on Tunisian National Decree No. 2602-1995 regulating engineering education and the award of the national engineering diploma. At the beginning of each academic year, the examination calendar is published. Student performance is assessed through a combination of continuous assessment and final examinations. Continuous assessment may include mid-term tests or mini-projects, and the respective methods are specified in the course syllabus and communicated at the start of each module. Written mid-term examinations are typically scheduled around the seventh week of the semester.

Each semester comprises a main examination session (held in January and May, respectively) and a resit session organised after the publication of results. Examinations are conducted in written or practical form, while projects and internships are assessed through a presentation or oral examinations. According to the SAR, student assessments are aligned with the intended learning outcomes of each module. Examination tasks are structured in such a way that individual questions address specific learning outcomes, and grading is based on transparent evaluation criteria and a detailed scoring system. For modules consisting of lectures, tutorials, and/or practical work, the final grade is composed of 65% final examination and 35% continuous assessment (e.g., mid-term exams).

To pass a study year, students must achieve an overall average grade of at least 10 out of 20 (the national passing threshold) and obtain 60 ECTS credits. In addition, a minimum

average of 8 out of 20 is required in each defined module group as specified in the study regulations.

Students who do not pass the main examination session are automatically admitted to the resit session. Under defined conditions, progression to the next academic year may be granted even if certain modules have not been passed, provided that no more than four modules remain to be retaken.

In the final year, students are required to defend their graduation project before a jury appointed by the Director of Studies. Only students who have successfully completed the fifth semester are eligible for the defence. The national engineering diploma is awarded once the examinations of all structured modules have been passed, all required internships have been validated, and the graduation project has been successfully defended with a minimum grade of 10 out of 20.

The panel confirms that the examinations largely assess the extent to which the defined learning objectives have been achieved. Examinations are clearly assigned to specific modules, and the institution provides students with feedback on the competences acquired. The study programme includes a final thesis in the form of a graduation project, which demonstrates that students are capable of working independently on a task at the intended level of the degree programme. The graduation projects reviewed during the site visit correspond to the required academic level.

The experts further confirm that the types of examinations are specified for each module in the module descriptions. Students are informed about the assessment requirements, including coursework and examination modalities, at the beginning of each module, which was also confirmed during the discussions with students. Transparent regulations exist regarding resit examinations, non-attendance, and cases of illness, while compensation for disadvantages is regulated in the Student Charter.

The panel also notes that the number and distribution of examinations generally ensure an adequate workload and provide sufficient time for preparation. The organisation of examinations supports a smooth study process, and students reported that adequate preparation time is available. Examinations are graded according to transparent criteria, and students have the opportunity to consult lecturers regarding their results.

With regard to graduation projects conducted outside the higher education institution, the panel observes that the institution retains responsibility for academic oversight and quality assurance. Students are required to submit their graduation project to a jury appointed by the Director of Studies. This jury consists of three teaching members, including the academic supervisor, and may include the industrial supervisor as an invited member. Through

this structure, the institution ensures appropriate supervision and maintains responsibility for the academic quality of the graduation project.

At the same time, the panel identifies areas for improvement. Due to the fragmented module structure, combined with both mid-term and final assessments, students face a comparatively high examination load, even though no explicit complaints were raised during the discussions. As already suggested in the context of curriculum structure, a reduction in the number of modules would also help to alleviate this burden and allow for greater academic depth within the individual modules. It is therefore recommended to reduce the number of examinations per semester.

Furthermore, the panel notes that the English designation of the graduation project is used inconsistently (e.g. graduation, final, or end-of-study project). It is therefore recommended to use a uniform and consistent designation for the graduation project across all relevant documents in English.

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

In its statement, ISAMM indicates that the designation of the graduation project will be standardised across all relevant documents. The experts welcome this clarification.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Appendix: Teacher CVs (A3.1_teachers_cv.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, ISAMM is characterised by a multidisciplinary teaching staff organised across three departments: the Department of Computer Science and Multimedia, the Department of Multimedia Communication, and the Department of Audio-Visual. Teaching in the engineering cycle is supported by three categories of instructors: permanent academic staff, part-time lecturers, and professionals from industry.

The institute employs 163 permanent teachers recruited through national competitions organised by the Ministry of Higher Education and Scientific Research. The majority of these staff members hold a PhD. The academic ranks include professors, associate professors, assistant professors, and assistants, as well as teachers from secondary education. In addition, ISAMM engages 40 part-time lecturers and 32 professional experts. For the engineering cycle specifically, a subset of these staff members is assigned. This includes 3 professors, 3 associate professors, 30 associate assistant professors, and 5 assistants. In addition, 1 teacher from secondary education contributes to the programme. The engineering training is further supported by 2 professional experts, 7 experts for specific topics, and 4 part-time lecturers.

The SAR emphasises the multidisciplinary composition of the teaching team, covering areas such as computer science, mathematics, management sciences, design, and soft skills. The coexistence of scientific and artistic disciplines at ISAMM is described as enabling the integration of technical and creative approaches within the engineering education.

With regard to staff development, the SAR states that considerable importance is attached to the continuous professional development of instructors. Teaching staff participate in certified and non-certified training activities to remain up to date with technological developments, enhance pedagogical skills, familiarise themselves with quality assurance standards, and improve language competences. These professional development activities are grouped into several categories, including technical training, educational and pedagogical training, quality and management training, as well as communication, soft skills, and personal development training.

The panel confirms that the teaching staff is suitably qualified to deliver the degree programme successfully. The academic and professional backgrounds of the instructors ensure that the intended learning outcomes can be achieved. The experts also note that staff development plays an important role at ISAMM. Lecturers are offered opportunities to further develop their professional and pedagogical competences, and these measures contribute positively to the programme.

At the same time, the panel identifies further potential for development. The SAR highlights the academic staff's engagement in research activities and their openness to developments in the field, including participation in scientific events and collaborations. During the discussions, teaching staff themselves indicated that, while research activities are supported, opportunities for more intensive involvement in research projects and international exchange could be further expanded. Against this background, the experts consider that additional opportunities to strengthen research engagement would be beneficial. In particular, enabling greater participation in research projects, international conferences, and workshops would support staff in remaining academically and professionally up to date. It is therefore recommended to further support academic staff in maintaining and developing their professional and research competences.

Furthermore, as observed during the discussion rounds, although the institution provides support for the development of language skills, the panel sees room for improvement with regard to English language proficiency. In the context of increasing internationalisation and participation in international academic discourse, a strong command of English as the language of science is essential. It is therefore recommended to further enhance the English language proficiency of the teaching staff.

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- Appendix: 4C Events (A3.2_4C_events.pdf)
- Appendix: Job Week Satisfaction Survey (A1.6.2_Job week satisfaction_survey.pdf)
- Appendix: Overview of the Student Clubs (A3.2_ISAMM_Clubs.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, ISAMM offers a range of student support measures aimed at facilitating academic integration, enhancing employability, and promoting student engagement.

At the beginning of each academic year, the institute organises an integration day for newly enrolled students. During this event, members of the management, including the Director, Director of Studies, and Director of Internships, as well as department and programme heads, introduce the study programmes, academic regulations, and the academic calendar. In the second part of the day, student clubs present their activities and organise cultural and social events to support students in becoming familiar with the institution and student life.

A central element of student support is the Career and Skills Certification Centre (4C-ISAMM), which forms part of a national initiative to enhance graduate employability. The 4C centre offers training workshops in soft skills, job application techniques, entrepreneurship, language and technology certification, and transversal competences.

Towards the end of their studies, the so-called Job Week is organised to support students in their transition into the professional environment. This programme includes workshops on CV preparation, interview training, and communication skills, as well as meetings with alumni and company representatives and visits to companies. According to the conducted surveys, feedback from participating students has been positive, and subsequent editions have been further developed on the basis of evaluation results.

Student engagement is further supported through a range of student clubs, covering technical, cultural, and creative fields. These clubs are supervised by academic staff and organise various activities and events throughout the year. The SAR also reports that hackathons and similar events are regularly organised in cooperation with professional partners, enabling students to work on current technological topics and to interact with representatives from industry.

The panel confirms that sufficient human resources and appropriate organisational structures are available to provide subject-specific and general academic counselling, supervision, and student support. During the discussions, students emphasised the close contact with teaching staff, describing the exchange as constructive and supportive. The available advisory services, both technical and general, contribute to enabling students to achieve the intended learning outcomes and to complete the programme within the scheduled period of study.

When asked about support measures, students expressed overall satisfaction with the services offered by ISAMM. In addition to academic guidance, consultation hours and access to psychological support are available when needed.

The panel also addressed the topic of professional certifications. While linguistic certifications such as TOEIC and Voltaire are well documented, the integration or systematic

promotion of technical micro-certifications (e.g. industry-recognised certifications in areas such as cloud computing, software testing, or networking) is less evident, although several members of the teaching staff hold such qualifications. The institution indicated that certain initiatives exist but are dependent on available budgetary resources. Industry representatives also expressed interest in stronger support for students in obtaining such certifications. The panel therefore sees potential for further development in this area and recommends allocating a dedicated budget to support students in acquiring relevant professional certifications.

Criterion 3.3 Funds and Equipment

Evidence:

- Self-Assessment Report
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, the financial resources and available equipment provide a sustainable basis for delivering the degree programme. An overview of the financial resources for 2023 and 2024 is provided in the SAR.

ISAMM reports that its infrastructure is designed to meet the evolving needs of computer science and multimedia education. The institute comprises classrooms equipped with projectors and 23 computer laboratories furnished with computers, specialised software, local networks, and internet access to support practical work and programming activities. In addition, dedicated facilities include a virtual reality laboratory equipped with Oculus Go headsets and specialised hardware, a gaming laboratory, and a laboratory for embedded systems and IoT.

The infrastructure further includes an auditorium with 260 seats, a mini-auditorium, meeting rooms, a research room, a reading room, and the aforementioned Career and Skills Certification Centre (4C). Post-production and audio-visual facilities are also available, including editing suites, a sound studio, a photo lab, and related equipment.

According to the SAR, the campus environment is designed to provide a supportive learning atmosphere. Students have access to green spaces with Wi-Fi, a library, and nearby catering facilities. The library specialises in computer science, multimedia, and audiovisual studies and provides access to printed materials, project reports, and electronic resources via a national documentation portal.

The panel confirms that the financial resources constitute a sustainable basis for delivering the degree programme. This includes secure funding and reliable financial planning, which provide the necessary framework for maintaining teaching operations and infrastructure.

During the on-site visit, the experts inspected the laboratories and reviewed the equipment available for the programme. They confirm that the degree programme is supported by sufficient infrastructure. The available facilities are considered adequate for the delivery of teaching and practical training.

At the same time, the panel notes room for further enhancement. While the existing infrastructure is sufficient to deliver the study programme and to ensure the conduct of teaching activities, the equipment appears to be rather at the lower end in terms of scope and capacity and could be further strengthened. In particular, it is important to ensure that hardware and software resources are available in adequate quantity for all students and that infrastructural needs are regularly reviewed and updated in light of ongoing technological developments. It is therefore recommended to ensure the regular updating of the computer laboratories.

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

The higher education institution did not comment on criterion 3 in its statement.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-Assessment Report
- Appendix: Module descriptions (A4.1_Modules Description-25.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the documentation provided, the institution has submitted module descriptions for the degree programme. Each module is identified by a module title and a unique code, as well as the assigned semester. The module descriptions specify the person responsible for the module and the respective lecturer(s), as well as the language of instruction and the course category (compulsory or optional).

Furthermore, the module descriptions include information on the total workload, differentiated into contact hours, personal practical work, and self-study time, together with the allocated ECTS credits. They outline the requirements for successful completion of the module, including prerequisites, intended learning outcomes, content, and the forms of assessment. In addition, information on teaching media and recommended literature is provided.

The panel confirms that module descriptions are available for the programme. During the discussions, students confirmed that they have access to the relevant information; however, the module descriptions are stored in an internal area and are not publicly accessible via the institution's website.

Overall, the module descriptions contain most of the required information. Nevertheless, the panel considers that they should be systematically reviewed to ensure completeness and consistency across all modules. In several cases, relevant information is missing. For example, in the module *Probability and Statistics*, no person responsible for the module is indicated, and the section on study and examination requirements, including the form of examination, is incomplete.

While the form of examination (e.g. written exam, project) is generally specified, the calculation of the final module grade is not consistently indicated. In some modules, such as *Algorithmics and Complexity*, the weighting between continuous assessment and final examination is clearly stated (e.g. 30% / 70%). In others, such as *Operating System I, Digital*

Circuits, Local Networks and others, the assessment modalities are described, but the respective weighting of continuous and final assessment components remains unclear.

Furthermore, individual module descriptions lack a reading list or information on the teaching media used (e.g. *Object-Oriented Programming*). In addition, the date of the last amendment of the module descriptions is not indicated.

The panel therefore requires that the module descriptions be revised to ensure that they consistently include complete and transparent information, in particular with regard to the type of examination, the calculation of marks, a reading list, and the date of the last overall revision of the module handbook.

The panel further notes that module descriptions are not available for all modules of the degree programme. In particular, the two internships and the graduation project are not covered by module descriptions. The institution must ensure that module descriptions are available for all modules of the degree programme.

The panel further observes that, as already addressed under Criteria 1.1 and 1.3, the intended academic level (EQF Level 7) is not consistently evident from the module descriptions. Based on the discussions with the programme coordinators as well as the review of examination materials and graduation projects, the experts gained the impression that this is primarily a matter of presentation rather than a substantive deficiency in academic level. Nevertheless, it is essential that the expected level is clearly reflected in the official documentation. The panel therefore requires the institution to revise the module titles and descriptions to ensure that they accurately reflect the content and the academic level expected at EQF Level 7.

In this context, the panel also noted that several module titles are identical in both the Bachelor programme and the Engineering Cycle. Although the Bachelor programme was not part of the present accreditation procedure, the use of identical module titles may obscure the distinction in academic level and create the impression that the Engineering Cycle corresponds to a Bachelor-level qualification. To enhance transparency and clearly demonstrate the higher qualification level, module titles in the Engineering Cycle should be clearly distinguished from those used in the Bachelor programme and clearly show EQF Level 7.

In addition, the panel notes that the module handbooks are not publicly available on the website. While it is sufficient for current students and teaching staff that the documents are accessible via the internal system, module descriptions are also of interest to prospective students and other external stakeholders. It is therefore recommended to publish the module handbooks on the institution’s website.

Furthermore, the panel recommends including a table of contents in the module descriptions to improve clarity and facilitate navigation of the document for all stakeholders.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-Assessment Report
- Samples of the Diploma and the Diploma Supplement
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The institute provided examples of the Diploma and the Diploma Supplement. The documentation indicates that both documents are available to graduates and are largely prepared in English. The Diploma Supplement contains information on the student's qualification profile, individual performance, and the classification of the degree programme within the national education system. Furthermore, it presents the grades of individual modules and statistical data in line with the ECTS Users' Guide to facilitate the interpretation of results.

However, certain aspects require improvement. During the discussions, the panel learned that the Diploma Supplement was introduced only recently and is currently issued only upon request. Given the importance of this document for graduates' academic and professional mobility, the panel considers this practice insufficient. The Diploma Supplement should be provided automatically to all graduates upon completion of the programme. Furthermore, the current Diploma Supplement does not contain sufficient information on the calculation of the final overall grade. It merely states that the grade of the graduation project is not included in the overall score. While this practice does not formally contradict the applicable criteria, it appears unusual, particularly since the graduation project is intended to demonstrate the competences acquired throughout the programme. The panel therefore considers that a transparent explanation of the calculation method would be appropriate. In addition, some sections of the Diploma Supplement, including the heading "4.2 Exigences du programme" and parts of section 4.5 "General classification of the diploma", are still provided in French. The panel emphasises that the Diploma Supplement should be issued entirely in English. The panel therefore requires that all graduates be provided with a Diploma Supplement in English in line with the ASIIN criteria.

Furthermore, the Diploma Supplement currently states only "National degree for engineer in applied sciences and technology specialization", which does not reflect the full official

name of the programme. The institution must therefore ensure that the Diploma Supplement contains the full official name of the degree programme, as already addressed under Criterion 1.2 Name of the Degree Programme.

Another aspect concerns the access requirements stated in the Diploma Supplement, which suggest that admission is possible with a degree in various related fields, including communication. During the discussions, the panel sought clarification as to whether a Bachelor's degree in Communication would qualify for entry into the Engineering Cycle. The programme management clarified that this indication is incorrect and that admission requires a Bachelor's degree in Computer Science. The institution must ensure that the Diploma Supplement accurately reflects the correct admission requirements.

Criterion 4.3 Relevant Rules

Evidence:

- Self-Assessment Report
- Appendix: ISAMM Student Charter (A1_Student Charter ISAMM.pdf)
- Appendix: The Institute's Rules of Procedure (A4.3_Internal_Regulation-En.pdf)
- Appendix: Internal Assessment Regulations (2022/23) (A4.3_Internal_Assessment_Regulations-En.pdf)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
According to the SAR, students are informed about their rights and duties upon enrolment at ISAMM. The relevant information is set out in the ISAMM Student Charter, which serves as a comprehensive guide to institutional policies and procedures. In addition, students are informed about these regulations during orientation events, university meetings, and regular information sessions.

Regulations concerning examinations and assessment procedures are specified in a separate document, which outlines the applicable rules and requirements.

The panel confirms that the rights and duties of both the higher education institution and the students are clearly defined and formally binding. During the discussions, students indicated that they feel well informed about the applicable regulations and procedures.

However, the panel notes that these regulations are not publicly accessible to all interested stakeholders. The limited availability of information is currently linked to the institutional website, which is hosted by the Ministry of Education and was temporarily taken offline

following a cyberattack. At present, access is restricted and the website is undergoing redesign, resulting in only limited information being available online. While the panel acknowledges the institution's efforts to address this situation, it remains essential that transparency be ensured. The institution must therefore ensure that all relevant study-related regulations and documents are publicly available and accessible to all stakeholders.

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

Criterion 4.1

In its statement, ISAMM acknowledges the need for further harmonisation of the module descriptions. The institution states that a revised and complete module handbook will be prepared in which all modules of the Engineering Cycle are documented. According to ISAMM, each module description will include information on the type of examination, the calculation of marks, a reading list, and the date of the last revision. In addition, module titles and descriptions will be reviewed to ensure that they adequately reflect EQF Level 7 learning expectations, and modules of the Engineering Cycle will be clearly distinguished from Bachelor-level modules. The experts welcome these planned measures. Until the revised and complete module descriptions have been submitted, the requirements remain in place to ensure that the module descriptions include all relevant information, to provide module descriptions for all modules, and to revise the module titles and descriptions so that they adequately reflect the actual content at EQF Level 7.

Criterion 4.2

In its statement, ISAMM confirms that all graduates will automatically receive a Diploma Supplement issued entirely in English. Furthermore, the institution states that the full official programme title will be included, the admission requirements will be corrected to reflect the required Bachelor's degree in Computer Science, and the calculation of the final grade will be described transparently. The experts welcome these announced measures. Until the revised Diploma Supplement has been implemented and submitted, the requirements remain in place to ensure that all graduates receive a Diploma Supplement in English in line with the ASIIN criteria and that it includes the correct admission requirements.

Criterion 4.3

In its statement, ISAMM confirms that all relevant study-related regulations will be made publicly accessible in a consistent and transparent manner. The institution explains that temporary limitations in online accessibility were caused by a cyberattack affecting the ministry-hosted website and that the institutional website is currently being upgraded to

ensure permanent public access to all relevant documents. The experts welcome these explanations and take note of the circumstances described. Until the implementation has been completed, the requirement remains in place to ensure that all relevant study-related regulations are publicly available and accessible to all stakeholders in a consistent and transparent manner.

5. Quality Management: Quality Assessment and Development

Criterion 5 Quality Management: Quality Assessment and Development

Evidence:

- Self-Assessment Report (incl. some survey results)
- Discussions during the audit

Preliminary assessment and analysis of the experts:
The institution reports that ISAMM has pursued a quality-oriented development strategy since its establishment in 2000, with the aim of strengthening its position as a multidisciplinary institution in the fields of multimedia and computer science.

ISAMM is currently engaged in the accreditation of its study programmes, beginning with the Engineering Cycle, and is developing an internal quality assurance plan aligned with international standards. In this context, the institution aims to establish a Management System for Education Organizations (SMOE) to ensure transparency, impartiality, efficiency, and ethical governance.

Self-assessment is conducted primarily through structured digital satisfaction surveys addressing key areas such as access to information, training and organisation, infrastructure, student life, and graduate employment. The results are analysed to identify strengths and weaknesses and to derive corrective measures.

The SAR presents the results of various surveys addressing different aspects of the study programme and outlines measures derived from these evaluations. During the discussions, students expressed positive views regarding several of the issues addressed in the surveys, which suggests that the measures implemented have had a positive effect. However, students also indicated that the results of the surveys are not systematically communicated to them. In order to close the feedback loop and strengthen transparency, it is important that evaluation results be shared with students; ideally, the findings can be discussed in class. The institution must therefore ensure that students are informed about the evaluation results.

While quality assurance activities and improvement measures are described in the SAR, formalised processes and clearly defined responsibilities for the systematic further development of the programme are not yet sufficiently transparent. The panel acknowledges that the institution is currently in the process of restructuring its quality management system. Nevertheless, the institution is requested to submit documentation specifying in

which formal documents and in what structured manner the quality management system is currently defined and implemented and how the different stakeholders are involved.

Furthermore, the panel requests results of the conducted surveys (student surveys, graduate and alumni surveys, diploma surveys, and workload evaluations), in order to allow for a more comprehensive assessment of developments over time. At present, it is not fully evident how the various stakeholder groups are systematically integrated into the quality management system.

In addition, statistical data for the period 2008–2025, including enrolment figures, number of graduates, drop-out rates, and the average duration of studies, should be submitted to enable a longitudinal evaluation of the programme's development and performance.

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

In its statement, ISAMM confirms that the structure, responsibilities, and procedures of the Quality Management System (SMOE) will be formalised in a Quality Manual. Furthermore, the institution states that stakeholder participation, including students, alumni, industry representatives, and faculty, will be clearly documented and that survey results will be systematically communicated to students. The experts welcome these planned measures. Until the implementation has been completed and documented, the requirement remains in place to ensure that students are informed about the evaluation results.

In addition, ISAMM must define processes and responsibilities for the further development of the programme. In its statement, ISAMM indicates that a Quality Manual is currently being prepared. Within the framework of the statement, a draft of this document, which has not yet been finalised, was submitted. The experts consider ISAMM to be on a good path in this regard. Until the document has been officially adopted and the processes and responsibilities are formally defined and documented, ISAMM must define and document these quality management processes and responsibilities.

Furthermore, within the framework of the statement, ISAMM submitted evaluation results of conducted surveys, including student surveys, graduate and alumni surveys, diploma surveys, and workload evaluations, as well as statistical data for the period 2008–2025, including enrolment numbers, numbers of graduates, drop-out rates, and the average duration of studies. The experts take note of the submitted evaluation results and statistical data and consider them to be sufficiently comprehensive and appropriate.

E Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

D 1. Formal regulations governing the recognition of credits earned at other higher education institutions (including those earned abroad)
D 2. Formally adopted document regulating the quality management system, specifying its structure, responsibilities, and procedures (e.g. QM manual)
D 3. Evaluation results of conducted surveys (student surveys, graduate and alumni surveys, diploma surveys, and workload evaluations)
D 4. Statistical data for the period 2008–2025, including enrolment numbers, number of graduates, drop-out rates, and the average duration of studies.

F Comment of the Higher Education Institution (05.03.2026)

The following quotes the comment of the institution:

„**1. Intended Learning Outcomes (Criterion 1.1)**

We acknowledge that the intended learning outcomes are currently embedded in institutional documents but not systematically published in a centralised and fully transparent manner.

ISAMM confirms that:

- The intended learning outcomes will be published on the official website,
- They will be clearly integrated into the programme description,
- They will be consistently reflected in the revised module handbook.
- This will ensure full accessibility for all stakeholders.

2. Programme Title Consistency (Criterion 1.2)

ISAMM confirms that the official English programme title:

“National Diploma for an Engineer in Applied Sciences and Technology – Specialization: Computer Science and Multimedia”

will be used consistently across all official documents, publications, and the Diploma Supplement.

The designation of the Graduation Project will also be standardised in all relevant documents.

3. Workload and Credit Allocation (Criterion 1.5)

ISAMM confirms that:

- The methodology used to calculate student workload will be formally documented,
- Internship modules will be reviewed to ensure that the awarded ECTS credits correspond to the actual workload,

- Supporting documentation will be integrated into the Quality Management framework.

4. Module Descriptions (Criterion 4.1)

We acknowledge the need for further harmonisation of module documentation.

ISAMM confirms that:

- A revised and complete module handbook will be prepared,
- All modules of the Engineering Cycle will be documented,
- Each module description will include:
    - Type of examination,
    - Calculation of marks,
    - Reading list,
    - Date of last revision,
- Module titles and descriptions will be reviewed to clearly reflect EQF Level 7 learning expectations,
- Engineering Cycle modules will be clearly distinguished from Bachelor-level modules.

5. Diploma Supplement (Criterion 4.2)

ISAMM confirms that:

- All graduates will automatically receive a Diploma Supplement,
- It will be issued entirely in English,
- The full official programme title will be stated,
- Admission requirements will be corrected to reflect the required Bachelor's degree in Computer Science,
- The calculation of the final grade will be transparently described.

6. Public Availability of Study Regulations (Criterion 4.3)

ISAMM confirms that all relevant study-related regulations will be made publicly accessible in a consistent and transparent manner.

Temporary limitations in online accessibility were due to the cyberattack affecting the Ministry-hosted website. The institutional website is currently being upgraded to ensure permanent public access to all relevant documents.

7. Quality Management System (Criterion 5)

ISAMM confirms that:

- The structure, responsibilities, and procedures of the Quality Management System (SMOE) will be formalised in a Quality Manual,
- Stakeholder participation (students, alumni, industry representatives, faculty) will be clearly documented,
- Survey results will be systematically communicated to students,
- Statistical data for the period 2008–2025 are submitted as requested.

8. Recognition of Credits Earned at Other Institutions

ISAMM confirms that recognition of credits earned at other higher education institutions, including those obtained abroad, is already implemented in practice within the framework of international mobility agreements.

In particular, within the Erasmus+ programme, semester or full-year exchanges are organised on the basis of prior academic coordination and formal equivalence mapping of modules and ECTS credits between partner institutions. For example, such procedures have been successfully carried out in cooperation with the École Nationale d'Ingénieurs de Brest (ENIB). In these cases, course contents, learning outcomes, and credit allocations were aligned in advance through a Learning Agreement process.

These established practices ensure academic consistency and transparency in credit transfer.

To further strengthen formalisation and transparency, ISAMM will:

- Consolidate these procedures into a formal written regulation governing credit recognition,
- Ensure its public accessibility,
- Integrate it into the Quality Management documentation.

Additional Documents

In accordance with the requests of the expert panel, ISAMM will provide the following documents together with this statement:

D 1. Formal regulations governing the recognition of credits earned at other higher education institutions (including those obtained abroad)
Already implemented in Erasmus+ exchanges, e.g., with ENIB – practical example of the student Imen Belaljia. **(see d1.pdf)**

D 2. Formally adopted Quality Management documentation
Specifying structure, responsibilities, and procedures (QM manual). **(see d2.pdf)**

D 3. Evaluation results of conducted surveys
Including student surveys, graduate and alumni surveys, diploma surveys, and workload evaluations. **(see d3.pdf** and **d3-Appendix.xlsx)**

D 4. Statistical data for the period 2008–2025
Including enrolment numbers, number of graduates, drop-out rates, and average duration of studies. **(see d4.pdf)**

These documents are provided to ensure full transparency and to support the implementation of the requirements.

Concluding Statement

ISAMM fully acknowledges the listed requirements and is committed to fulfilling them within the stipulated timeframe. We consider this accreditation process a valuable framework for continuous improvement and institutional development. “

G Summary: Expert recommendations (16.03.2026)

Taking into account the additional information and the comments given by three of the experts summarise their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Accredited by German Engineers	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Computer Science and Multimedia Engineer Training Programme	With requirements for one year	With requirements for one year	30.09.2031	Euro-Inf®	30.09.2031

Requirements

A 1. (ASIIN 1.1) Ensure that the intended learning outcomes are transparently published, making them accessible to all relevant stakeholders.

A 2. (ASIIN 1.2) Make sure that the English programme title (incl. the tracks) is used consistently in all relevant documents and publications.

A 3. (ASIIN 1.5) Evaluate the student workload transparently and award credits accordingly.

A 4. (ASIIN 1.5) Ensure that the credits awarded for the internship modules correspond with the actual workload of the students.

A 5. (ASIIN 4.1) Ensure that the module descriptions include information about the type of exams, calculation of the marks, a reading list and the date of the last amendment made.

A 6. (ASIIN 4.1) Provide module descriptions for all modules.

A 7. (ASIIN 4.1) Revise the module titles and module descriptions so that they adequately reflect the actual content on an EQF 7 level.

A 8. (ASIIN 4.2) Ensure that all graduates are provided a Diploma Supplement in English in line with the ASIIN criteria.

A 9. (ASIIN 4.2) Ensure that the Diploma Supplement includes the correct admission requirements.

A 10. (ASIIN 4.3) Ensure that all relevant study-related regulations are publicly available and accessible to all stakeholders in a consistent and transparent manner.

A 11. (ASIIN 5) Ensure that students are informed about the evaluation results.

A 12. (ASIIN 5) Define and document clear quality management processes and responsibilities.

Recommendations

E 1. (ASIIN 1.3) It is recommended to streamline the curriculum by reducing the number of modules in order to allow for greater academic depth and to ensure alignment with labour market requirements.

E 2. (ASIIN 1.3) It is recommended to refrain from assigning formal prerequisites to modules in the first semester

E 3. (ASIIN 1.3) It is recommended to define prerequisites by reference to specific modules.

E 4. (ASIIN 1.3) It is recommended to further foster international student mobility.

E 5. (ASIIN 2) It is recommended to reduce the number of exams per semester.

E 6. (ASIIN 2) It is recommended to use a consistent designation for the graduation project across all relevant documents.

E 7. (ASIIN 3.1) It is recommended to further promote the research activities and international academic engagement of the teaching staff.

E 8. (ASIIN 3.1) It is recommended to further enhance the English language proficiency of the teaching staff.

E 9. (ASIIN 3.2) It is recommended to allocate a dedicated budget to support students in obtaining professional certifications.

E 10. (ASIIN 3.3) It is recommended to ensure the regular updating of the computer laboratories.

E 11. (ASIIN 4.1) It is recommended to publish the module handbooks on the website.

E 12. (ASIIN 4.1) It is recommended to include a table of contents in the module handbook.

H Comment of the Technical Committee 04 – Informatics/Computer Science (20.03.2026)

Assessment and analysis for the award of the ASIIN seal:

The TC discusses the procedure and especially recommendations E11 and E12. The TC believes that E11 should also be a requirement and advocates integrating the publication of the MHB into the existing requirement A10 and deleting E11 in return. In the opinion of the TC, E12 can also be deleted, as this is not an issue that needs to be addressed by recommendation. In addition, the TC would like to add “more specific” to recommendation E3 to make it clear that prerequisites are already specified, but in too general a form and do not refer to explicit previous modules/courses. Otherwise, the TC follows the experts’ assessment without any further changes.

Assessment and analysis for the award of the Euro-Inf® Label:

The Technical Committee deems that the intended learning outcomes of the degree programme do comply with the Subject-Specific Criteria of the Technical Committee 04 – Informatics/Computer Science.

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

Degree Programme	ASIIN Seal	Accredited by German Engineers	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Computer Science and Multimedia Engineer Training Programme	With requirements for one year	With requirements for one year	30.09.2031	Euro-Inf®	30.09.2031

I Decision of the Accreditation Commission (27.03.2026)

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

The AC discusses the procedure and makes some adjustments to the assessment of the experts and the TC.

With regard to requirement A10, the AC introduces some minor linguistic corrections but otherwise follows the proposal of the TC. Requirement A12 concerning the QM system is reworded by the AC in a more precise manner.

Regarding recommendation E1, the AC adds that, in addition to reducing the size of modules, attention should also be given to the number of examinations per semester. As a consequence, the former recommendation E5 is no longer required and is therefore deleted.

The AC further discusses the issue that the grade of the final project is not included in the overall final grade. Given that this project represents a central component of the programme, in which students demonstrate the competences acquired during their studies, the AC considers it difficult to justify the exclusion of this grade from the overall GPA. It therefore introduces an additional recommendation (E6) to include the grade of the final project in the overall GPA.

The AC also follows the TC's proposal to delete Recommendations E11 (as its content has been incorporated into A10) and E12.

In all other respects, the AC follows the final assessment of the experts and the TC.

Assessment and analysis for the award of the Euro-Inf® Label:

The Accreditation Commission deems that the intended learning outcomes of the degree programme do comply with the Subject-Specific Criteria of the Technical Committee 04 – Informatics/Computer Science.

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
Computer Science and Multimedia Engineer Training Programme	With requirements for one year	With requirements for one year	30.09.2031	Euro-Inf®	30.09.2031

Requirements

A 1. (ASIIN 1.1) Ensure that the intended learning outcomes are transparently published, making them accessible to all relevant stakeholders.

A 2. (ASIIN 1.2) Make sure that the English programme title (incl. the tracks) is used consistently in all relevant documents and publications.

A 3. (ASIIN 1.5) Evaluate the student workload transparently and award credits accordingly.

A 4. (ASIIN 1.5) Ensure that the credits awarded for the internship modules correspond with the actual workload of the students.

A 5. (ASIIN 4.1) Ensure that the module descriptions include information about the type of exams, calculation of the marks, a reading list and the date of the last amendment made.

A 6. (ASIIN 4.1) Provide module descriptions for all modules.

A 7. (ASIIN 4.1) Revise the module titles and module descriptions so that they adequately reflect the actual content on an EQF 7 level.

A 8. (ASIIN 4.2) Ensure that all graduates are provided a Diploma Supplement in English in line with the ASIIN criteria.

A 9. (ASIIN 4.2) Ensure that the Diploma Supplement includes the correct admission requirements.

A 10. (ASIIN 4.3) Ensure that all relevant study-related regulations, as well as the module descriptions, are publicly available and accessible to all stakeholders in a consistent and transparent manner.

A 11. (ASIIN 5) Ensure that students are informed about the evaluation results.

A 12. (ASIIN 5) Define and document formalised quality management processes and clearly defined responsibilities.

Recommendations

E 1. (ASIIN 1.3/2) It is recommended to streamline the curriculum by reducing the number of modules and examinations per semester in order to allow for greater academic depth and to ensure alignment with labour market requirements.

E 2. (ASIIN 1.3) It is recommended to refrain from assigning formal prerequisites to modules in the first semester

E 3. (ASIIN 1.3) It is recommended to define more specific prerequisites by reference to specific modules.

E 4. (ASIIN 1.3) It is recommended to further foster international student mobility.

E 5. (ASIIN 2) It is recommended to use a consistent designation for the graduation project across all relevant documents.

E 6. (ASIIN 2) It is recommended to include the grade of the final project in the overall GPA.

E 7. (ASIIN 3.1) It is recommended to further promote the research activities and international academic engagement of the teaching staff.

E 8. (ASIIN 3.1) It is recommended to further enhance the English language proficiency of the teaching staff.

E 9. (ASIIN 3.2) It is recommended to allocate a dedicated budget to support students in obtaining professional certifications.

E 10. (ASIIN 3.3) It is recommended to ensure the regular updating of the computer laboratories.

Appendix: Programme Learning Outcomes and Curricula

According to the SAR and the Diploma Supplement, the following **objectives** and **Specific Learning Outcomes (SLO, intended qualifications profile)** shall be achieved by the Master's degree programme:

Objective 1: Scientific tools & techniques

SLO1: Apply scientific methods and use technical tools to design and develop applications and services for computer systems

SLO2: Master scientific methodologies and technical tools to deploy smart systems.

Objective 2: Skills technologies

SLO3: Exploit new (virtual and distributed) environments and frameworks for applications development

SLO4: Design and develop web, mobile and multimedia applications.

SLO5: Implement the techniques and approaches for testing, integration and continuous delivery

SLO6: Develop virtual environments and immersive systems.

SLO7: Implement distributed architectures and communicating and innovative systems

SLO8: UX design in the development of the human-machine interface

Objective 3: Self-development, innovation & projects

SLO9: Acquire the faculty of personal and relational self-development and of integration

SLO10: Master managerial skills and industrial cultures

Objective 4: Communication & managerial skills

SLO11: Master foreign languages and communicate with a varied audience.

The following **curriculum** is presented:

Table 5 : Common core curriculum Semester 1

First year Semester 1												
Y1 - S1	Unit Code	Courses	Credit ECTS	Supervised Workload	Workload division				Self Work	Assessment Mode		
					Courses -C	Directed Work - DW	Pratical Work - PW	Pesonnel pratical Work PPW		Written Assessment	Practical assessment- Oral	Project
	GM1.1	Mathematics for engineering	3	45	30	15	0	0	40	x		
		Numerical analysis I	3	45	30	15	0	0	40	x		
	GM1.2	Language theory	2	22,5	15	7,5	0	0	30	x		
		Mathematical Logic	2	22,5	15	7,5	0	0	30	x		
	GM1.3	Algorithmics and complexity	4	56,25	33,75	22,5	0	0	60	x		
		Programming	2	33,75	8,75	0	15	10	25			x
		Multimedia Programming	2	33,75	8,75	0	15	10	20			x
	GM1.4	Operating Systems I	3	45	30	15	0	0	40	x		
		Digital Circuits	3	45	30	15	0	0	40	x		
		Local Networks	3	45	25	10	10	0	40	x		
	GM1.5	Methodology and Comprehension of French Writing	1,5	22,5	10	7,5	0	5	15	x		
		English for IT 1	1,5	22,5	10	7,5	0	5	15	x		
		Total S1	30	438,75	246,25	122,5	40	30	395	10	0	2
				100%	56,13%	27,92%	9,12%	6,84%	90,03%			

Table 6 : Common core curriculum Semester 2

First year Semester 2												
Y1 - S2	Unit Code	Courses	Credit ECTS	Supervised Workload	Workload division				Self Work	Assessment Mode		
					Courses -C	Directed Work - DW	Pratical Work - PW	Pesonnel pratical Work PPW		Written Assessment	Practical assessment- Oral	Project
	GM2.1	Probability and statistics	2	33,75	15	11,25	7,5	0	25	x		
		Numerical analysis II	2	22,5	15	7,5	0	0	30	x		
		Operational Research	2	33,75	22,5	11,25	0	0	25	x		
	GM2.2	Object-oriented Programming	3	45	25	0	13	7	40			x
		Compilation	2	33,75	13,75	10	5	5	25	x		
	GM2.3	Parralel Architecture	2	33,75	20	0	13,75	0	25	x		
		Operating Systems II	3	45	25	0	15	5	40	x		
		IP Routing and Switching	3	45	20	0	20	5	40		x	
	GM2.4	Multimedia Fundamentals	2	33,75	22,5	11,25	0	0	25	x		
		UX Design	2	22,5	10	0	12,5	0	25			x
		Front end development	3	45	15	0	20	10	40			x
	GM2.5	Public speaking in French 1	2	22,5	10	7,5	0	5	20		x	
		English for IT2	2	22,5	10	7,5	0	5	20	x		
	Total S2		30	438,75	223,75	66,25	106,75	42,00	380,00	8	2	3
				100%	51,00%	15,10%	24,33%	9,57%	86,61%			

Table 7 : Common core curriculum Semester 3

	Second year Semester 3											
Y2 - S3	Unit Code	Courses	Credit ECTS	Supervised Workload	Workload division				Self Work	Assessment Mode		
					Courses -C	Directed Work - DW	Pratical Work - PW	Personnel pratical Work PPW		Written Assessment	Practical assessment - Oral	Project
	GM3.1	Optimization-techniques/methods	2	33,75	15	18,75	0	0	25	x		
		Stochastic Process and Queueing Theory	2	22,5	11,25	11,25	0	0	30	x		
	GM3.2	Software modeling	3	45	25	15	0	5	40	x		
		Databases	2	33,75	15	5	8,75	5	25	x		
		Back-end Framework	3	45	15	0	20	10	40			x
	GM3.3	Distributed and parrallel Systems	2	33,75	15	18,75	0	0	25	x		
		Network Certification Training	2	22,5	10	0	7,5	5	30		x	
	GM3.4	Graph Theory	3	45	25	20	0	0	40	x		
		Artificial Intelligence	2	33,75	20	13,75	0	0	25	x		
	GM3.5	Business French	2	22,5	10	7,5	0	5	20	x		
		International certification in English: B2	2	22,5	10	7,5	0	5	20	x		
	GM3.6	Economics and Business Management	2	22,5	10	7,5	0	5	20	x		
		Corporate Social Responsability	2	22,5	10	7,5	0	5	20			x
	GM3.7	Summer internship 1	1	0	0	0	0	0	30			
	Total Y2 S3		30	405,00	191,25	132,50	36,25	45,00	390,00	10	1	2
				100%	47,22%	32,72%	8,95%	11,11%	96,30%			

Table 8: Software Engineering programme Semester 4

2nd Year INLOG - Semester 4											
Y2 - S4	Unit Code	Courses	ECTS	Supervised Workload	Workload division				SW	Assessment Mode		
					C	DW	PW	PPW		Written Assessment	Practical assessment- Oral	Project
	GM4.1	Multi platform mobile development	3	45	15	0	20	10	40			x
		Software architecture	2	22,5	17,5	5	0	0	30	x		
		Software engineering	3	45	25	20	0	0	40			x
	GM4.2	Cloud computing	2	22,5	17,5	0	0	5	30	x		
		Internet of Things	2	22,5	10	0	7,5	5	30			x
		System administration	2	22,5	10	0	7,5	5	30	x		
	GM4.3	Machine learning	3	45	20	10	10	5	40	x		
		Information retrieval systems	2	33,75	22,5	11,25	0	0	20	x		
	GM4.4	Final Year Project	3	45	0	0	20	25	40			x
	GM4.5	ICT Law	1	22,5	10	7,5	0	5	5	x		
		International Certification in English: B2+	1	22,5	10	7,5	0	5	5	x		
	GM4.6 Optionnal	Opt. course 1: Modeling virtual Environment	1	22,5	7,5	0	7,5	7,5	5			x
		Optional course 2: Big Data	1	22,5	7,5	0	7,5	7,5	5	x		
	GM4.7	Front-end frameworks	3	45	20	0	15	10	40			x
		Software testing	2	22,5	10	0	7,5	5	30	x		
	Total Y2 S4		30	438,75	195,00	61,25	95,00	87,50	385,00	8 / 9	0	6
				100%	44,44%	13,96%	21,65%	19,94%	87,75%			

Table 12 : Imaging and Virtual Reality Semester 4

2nd Year INREV Semester 4											
Unit Code	Courses	Credit	Worload	Worload division				SW	Assessment Mode		
				C	DW	PrW	PPW		Written Assessment	Practical assessment- Oral	Project
GM4.1	Multi platform mobile development	3	45	15	0	20	10	40			x
	Software architecture	2	22,5	17,5	5	0	0	30	x		
	Software engineering	3	45	25	20	0	0	40			x
GM4.2	Cloud computing	2	22,5	17,5	0	0	5	30	x		
	Internet of Things	2	22,5	10	0	7,5	5	30			x
	System administration	2	22,5	10	0	7,5	5	30	x		
GM4.3	Machine learning	3	45	20	10	10	5	40	x		
	Information retrieval systems	2	33,75	22,5	11,25	0	0	20	x		
GM4.4	Final Year Project	3	45	0	0	20	25	40			x
GM4.5	ICT Law	1	22,5	10	7,5	0	5	5	x		
	International Certification in English: B2+	1	22,5	10	7,5	0	5	5	x		
GM4.7 Optionnal	Opt. course 1: Modeling virtual Environment	1	22,5	7,5	0	7,5	7,5	5			x
	Optional course 2: Big Data	1	22,5	10	0	7,5	5	5	x		
GM4.8	Image synthesis	3	45	15	0	20	10	40			x
	3D Programming	2	22,5	10	0	7,5	5	30			x
Total 2nd Year S4		30	461,25	200	61,25	107,5	92,5	390	8	0	7
			100%	43,36%	13,28%	23,31%	20,05%	84,55%			

Table 9 : Software Engineering programme Semester 5

Y3 - S5 INLOG	Third year Semester 5												
	Unit Code	Courses	Credit ECTS	Supervised Workload	Workload division				Self Work	Assessment Mode		
					Courses -C	Directed Work - DW	Pratical Work - PW	Pesonnel pratical Work PPW		Written Assessment	Practical assessment- Oral	Project
	GM5.1	Advanced machine learning	3	45	20	10	10	5	40	x		
		Information Systems Security	3	45	20	10	15	0	40	x		
	GM5.2	Management of innovative projects	2	22,5	10	7,5	0	5	25	x		
		Immersion in the professional world : Job Week -	1	22,5	10	7,5	0	5	5			x
		International Certification in English: C1	1	22,5	10	7,5	0	5	5	x		
	GM5.3G	Devops	3	45	15	0	25	5	40			x
		Technology Watch	2	22,5	7,5	0	7,5	7,5	30			x
	GM5.4G	Agile Methodology : SCRUM	3	45	25	20	0	0	40	x		
		opt1: .Net Framework (.Net core)	4	67,5	20	0	37,5	10	50			x
		opt2: Java's Framework (spring, hibernate)	4	67,5	20	0	37,5	10	50			
	GM5.5G	Web Services Engineering	3	45	25	0	15	5	40	x		
		Software quality	3	45	30	10	0	5	40			x
	GM5.6	Summer internship 2	2	0	0	0	0	0	60			
	Total Y3 - S5		30	427,50	192,50	72,50	110,00	52,50	415,00	6	0	5
				100%	45,03%	16,96%	25,73%	12,28%	97,08%			

Table 13: Imaging and Virtual Reality Semester 5

Third year Semester 5												
Y3 - S5 INREV	Unit Code	Courses	ECTS	Supervised Workload	Workload division				Self Work	Assessment Mode		
					Courses -C	Directed Work - DW	Pratical Work - PW	Pesonnel pratical Work PPW		Written Assessment	Practical assessment- Oral	Project
	GM5.1	Advanced machine learning	3	45	20	10	10	5	40	x		
		Information Systems Security	3	45	20	10	15	0	40	x		
	GM5.2	Management of innovative projects	2	22,5	10	7,5	0	5	25	x		
		Immersion in the professional world : Job Week	1	22,5	10	7,5	0	5	5		x	
		International Certification in English: C1	1	22,5	10	7,5	0	5	5	x		
	GM5.3V	Introduction To Haptics	2	22,5	15	0	7,5	0	30			x
		Physics-based animation and simulation	3	45	20	0	15	10	40			x
	GM5.4V	AR/VR application Development	2	33,75	18,75	0	15	0	25			x
		Narrative design of immersive content	3	45	15	0	20	10	40			x
		opt1: Principles of game design and development	3	45	15	0	20	10	40			
		opt2: Real Time 3D Development	3	45	15	0	20	10	40	x		
	GM5.5V	Image processing	3	45	20	10	10	5	40	x		
		Computer vision	2	33,75	15	0	18,75	0	25			x
	GM5.6	Summer Intership 2	2	0	0	0	0	0	60			
	Total Y3 - S5		30	427,50	188,75	52,50	131,25	55,00	415,00	6	1	5
				100%	44,15%	12,28%	30,70%	12,87%	97,08%			

Table 10 : Software Engineering & Virtual Reality programme Semester 6

3rd Year - Semester 6											
Unit Code	UNITS	ECTS	Worload	Worload division				SW	Assessment Mode		
				C	DW	PrW	PPW		Written Assessment	Practical assessment- Oral	Project
GM6.1	Graduation Project	30	450	0	0	0	450	0			
Total Y3 - S6		30	450	0	0	0	450	0			