



ASIIN Seal & EUR-ACE[®] label

Accreditation Report

National Diploma

Computer Science Engineering

Provided by

**The Private Higher Institute of Applied Sciences and
Management (SESAME)**

Version: 24 September 2024

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A About the Accreditation Process

Name of the degree program (in original language)	(Official) English translation of the name	Labels applied for ¹	Previous accredita- tion (issu- ing agency, validity)	Involved Technical Commit- tees (TC) ²
Programme de formation d'ingénieur en informatique	Computer Science Engineering	ASIIN, EUR-ACE® Label	/	04
Date of the contract: 05.05.2022 Submission of the final version of the self-assessment report: 09.09.2022 Date of the onsite visit: 06.-08.12.2022 at: Campus in Ariana				
Peer panel: Prof. Dr. Jörg Desel, FernUniversität Hagen Prof. Dr. Gregor Engels, Paderborn University Uwe Sesztak, Independent Consultant Wajih Hamrouni, EPI Sousse				
Representative of the ASIIN headquarter: Sophie Schulz				
Responsible decision-making committee: Accreditation Commission				
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015 Subject-Specific Criteria of Technical Committee 04 – Informatics/Computer Science as of March 29, 2018				

¹ ASIIN Seal for degree programs; EUR-ACE® Label: European Label for Engineering Programs

² TC: Technical Committee for the following subject areas: TC 04 - Informatics/Computer Science

B Characteristics of the Degree Program

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 Engineering	National Diploma	- Software Engineering - Data Science and Artificial Intelligence	7	Full time	Cy Tech, Telecom Sud Paris	6 semesters	180 ECTS	Annually

³ EQF = The European Qualifications Framework for lifelong learning

C Peer Report for the ASIIN Seal⁴

1. The Degree Program: Concept, content & implementation

Criterion 1.1 Objectives and learning outcomes of a degree program (intended qualifications profile)

Evidence:

- Learning objectives
- Module matrix
- Module descriptions
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

The Private Higher Institute of Applied Sciences and Management (SESAME) has described program objectives and program learning outcomes for the degree program. The peers approve that a detailed presentation of learning outcomes and graduates' profiles is given in combination with a learning outcome matrix matching the described learning outcomes with the respective modules of the program. The peers acknowledge that updating the qualification objectives and learning outcomes is a crucial element of SESAME's quality management, which should guarantee that students are trained in conjunction with the demand of the employment market as well as adapt to technological changes. The learning objectives are therefore regularly evaluated by the teaching staff, students, alumni and related industrial stakeholders. The latter include a number of partner companies that work closely with SESAME, e.g. by teaching courses, planning industrial visits or supervising end of studies projects.

The program under review aims at enabling its students to apprehend, analyze and solve complex problems in the field of Computer Science Engineering, and to deepen their scientific qualification in academic research. Moreover, they should have the capability to apply

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.

project management methods and leadership skills in order to manage complex and demanding projects. This also includes the ability to integrate into an organization and to work in international teams with cultural differences and the need to use foreign languages. Over the course of the program, students have to choose one out of two specializations: Software Engineering and Data Science & Artificial Intelligence. Graduates of the Software Engineering specialization are supposed to enhance their skills in programming and coding, working with complex algorithms and mastering different programming languages. The graduates are very sensitive to the quality of software, its optimization, its costs, its maintenance and evolution. In the Data Science & Artificial Intelligence specialization, graduates are expected to develop methods, processes, algorithms and mechanisms to manipulate, extract, optimize and use big data for predictive studies and decision-making. The identified job profiles of the degree program are Data Science Engineer, Software Development Engineer, Software Design Engineer, DevOps Engineer, and Artificial Intelligence Engineer.

The peers analyze the described learning outcomes and agree that they are generally in line with the expectations of the European Framework Level 7 (equivalent to master degree programs). Nevertheless, the peers also point out that the description of the learning outcomes does not make any specific reference to the scientific qualification of the students, such as the continuation of their academic work on a more advanced level such as a PhD program. As will be discussed in later sections of this report, the peers understand that the primary focus of the program lies on the professional and practical qualification of the students and less on the academic field.

During the on-site visit, the peers discuss in detail with the different stakeholders the overall aim behind the engineering degrees, both in general in Tunisia and specifically at SESAME. The peers get the impression that a common understanding of the engineering degree (and the engineer itself) does not exist, and that instead, the ideas of the engineering degree and its purposes differ greatly among the different stakeholders. While some believe the engineering degree to be one of the most (if not the most) prestigious degree in Tunisia, others criticize the fact that the programs only focus on practical application and lack scientific aspects, thus excluding graduates from many advanced positions both in research as well as industry. Since the role of the engineer in Tunisia and the educational system of the Tunisian engineering schools are rather unique, the peers would welcome if SESAME took this as an opportunity to establish and develop a common vision of the objectives and the expectations of an engineer and thus the degree program. This could then also be used for marketing purposes in order to attract more students to the engineering program, in particular those from abroad.

Criterion 1.2 Name of the degree program

Evidence:

- Regulation
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

The peers consider the name of the degree program to be adequately reflecting the aims, learning outcomes, and curriculum as well as the course language (in its original French title). During the on-site visit, the peers point out that in the documents presented to them, the title of the program is used inconsistently, i.e. “Computer Science” and “Computer Science Engineering”. The program coordinators make clear that this was an error in the application documents and that the correct use of the English title should be “Computer Science Engineering”. Since the program is very practically oriented and contains a large proportion of engineering modules, the peers agree that “Computer Science Engineering” is the more suitable title.

Criterion 1.3 Curriculum

Evidence:

- Curricular overview and study plan
- Module matrix
- Module descriptions
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

The curriculum of the program is designed to comply with the program objectives and learning outcomes, and is subject to continuous revision processes. As such, it is reviewed regularly and commented on by students and lecturers as well as by external stakeholders such as alumni or partners from schools and the private sector.

The program under review comprises six semesters, of which five are aimed at academic training in the form of modules grouped into coherent domains (basic, in-depth and specialized IT modules), practical work, and projects. Emphasis is also given to soft skills and management courses throughout the curriculum. The sixth semester is devoted to the final project, which takes place in a company for five to seven months. During this internship,

the student is supervised by a SESAME faculty member and a professional from the company.

The program is divided into modules, which comprise a sum of teaching and learning. During the first three semesters, all students study the same core curriculum. At the beginning of the fourth semester, the students then have to choose between the two specializations “Software Engineering” and “Data Science & Artificial Intelligence”. Other than the two specializations, the program does not offer any elective options for the students. In the context of a three-year program, the peers consider these options to be quite adequate. Most modules comprise practical elements and project works; besides, the program also includes internships during the summer holidays as well as the longer internship as part of the final project at the end of the program. Consequently, the peers see that the program is closely connected to the needs of the industry and prepares the students well for their further professional career. However, although all stakeholders confirm that the program and its graduates fulfill the needs of the labor market, the peers note that the majority of the modules and contents taught do not contain conceptual, theoretical and scientific aspects, or if they do, then only to a limited extent. While the peers generally welcome the practical orientation of the program, they emphasize that the curriculum covers many different topics rather superficially, some of which are – in addition – taught on a rather elementary level, leading to the fact that the curriculum lacks sufficient conceptual and scientific depth. This is also due to the fact that the curriculum consists of many small modules instead of combining related topics into bigger modules, thus ensuring a better teaching of the contents and allowing the students to focus more on the relevant topics within their specialization. The peers point out that the aim of an academic program should not, in the first place, be to cover as many topics as possible and to continuously add more contents, but rather to focus more on foundations, concepts and methods in order to enable the students to acquire skills and competencies on their own. In the peers’ opinion, it is thus necessary to reduce technical contents and supplement these with conceptual, foundational and theoretical contents in order to ensure the adequate scientific claim and academic level of the program. Examples are underlying programming language concepts (typing, threads, programming structures) instead of introductions into different programming languages (C, C++, Python, Java) or underlying architectural concepts of software (micro services, service-oriented architecture, self-adaptive architectures) instead of concrete techniques (dockerization, J2EE architecture). This, in turn, would also ensure that all contents and topics of the program are taught on an advanced level.

The low scientific claim within the program is also evidenced by the fact that the students do not acquire advanced research skills, as the majority of the modules has a very tech-

nical/practical character. The peers therefore ask SESAME to introduce an obligatory module that focuses solely on scientific work and the teaching of relevant research methods (academic literature, search criteria, citation, plagiarism, how to write/present/discuss scientifically). In this module, students must be taught to study on their own scientific material and to summarize and present their insights. The peers highlight that, for graduates of an advanced degree program, it is absolutely necessary to be able to conduct scientific work and research, and thus have an adequate level of research skills. In this module, students also need to be familiarized with questions of intellectual property – a topic that is not covered in the current curriculum.

Another problem resulting from the large amount of topics is that the module concept is not considered to be completely coherent. Several modules and subjects do not seem to be connected with or build on each other. During the discussion with the staff members, the peers get the impression that, although they are very committed and eager to provide high quality in their modules, the staff members do not exchange about the different topics in their modules and how they should be linked throughout the curriculum. This is also confirmed by the statements of the students, who emphasize that they would wish to better understand the links between the different subjects in order to get the “bigger picture” of the whole program and discipline. The peers therefore highly recommend conveying a better understanding of the relevant dependencies and links between different subjects and different modules.

Overall, the peers see room for improvement in several areas of the curriculum. First, in order to ensure that the program is taught on an advanced level compared to a European master’s level, the curriculum, and in particular its core modules, must be supplemented by conceptual and scientific aspects. Second, the curriculum must enable the students to acquire advanced research skills through introducing a new module only for this purpose. Third, it is highly recommended to reconsider the existing module concept. In this regard, they suggest combining related subjects or modules into bigger modules, thus allowing to go more into depth and focus on foundations, concepts and methods.

Mobility

SESAME follows an internationalization strategy and aims at increasing the number of international students in the upcoming years. In this regard, SESAME also offers different possibilities of student mobility. By the time of the on-site visit, it has established partnerships with French engineering schools in order to foster and facilitate mutual student exchange. Students are encouraged to go on exchange specifically during the final stage of their studies. During the on-site visit, the peers learn that currently though, only few stu-

dents take the opportunity to spend a semester abroad. Moreover, the number of incoming students is even lower, which they find very regrettable. The reasons why the number of students going abroad or coming to SESAME is so low are manifold, but it is mainly due to a lack of interest and insufficient information about funding opportunities. Moreover, the number of partner universities is rather limited, and the peers are convinced that increasing the range of attractive cooperation partners would encourage more students to study abroad. However, the peers are also of the opinion that language barriers might contribute to the low interest in student mobility, in particular when it comes to incoming students. During the on-site visit, the peers note that the English proficiency of most students is quite high and they would highly welcome if in the future, more modules would be offered in English. During the on-site visit, the peers learn that some modules are already partly taught in English and that many final projects are submitted in English, which they highly welcome. Yet, they recommend increasing the percentage of courses taught in English and they are convinced that this way the number of incoming students could increase as well, as offering more courses in English would attract more students from non-franco-phone countries to study at SESAME for one semester.

Criterion 1.4 Admission requirements

Evidence:

- Official regulations for admission
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

In accordance with the provision of Law No. 2000-73, regulating private higher education in Tunisia, two types of admissions are possible: Admission through the preparatory cycle and direct admission to the study programs (engineering cycles).

The preparatory cycle is open for all students holding a technical baccalaureate. Students that have completed this two-year preparatory cycle (at any Tunisian institution) have a right to choose the engineering program (second cycle) at SESAME.

It is also possible to apply directly to the engineering program (second cycle). Any student, whether Tunisian or international, is eligible for the study program if he or she holds a Bachelor's degree in Computer Science Engineering. It is also possible for candidates who have validated the first year of the second cycle at another university to enroll in the second year of the second cycle of the Computer Science Engineering program at SESAME

After reviewing the documents, the peers notice that the defined admission requirements are rather unspecific. For example, there do not seem to be any subject-specific prerequisites for admission to the degree program if students apply through the preparatory cycle. It is not defined what prerequisites these students must bring with them, which means that in theory a student with previous knowledge in a completely different field (such as mechanical engineering, electrical engineering, etc.) could apply for the program and not be rejected.

Although the different ways of admission to the program are explained in detail on SESAME's website, the peers thus urge SESAME to clearly define *technical* admission requirements. A process and entry assessment criteria need to be clearly defined which regulate a) what the necessary prerequisites are that any student must have in order study an advanced Computer Science Engineering degree and b) how the lack of prerequisites can be compensated.

Criterion 1.5 Workload and Credits

Evidence:

- Module descriptions
- Corroboration of student workload
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

All modules in the programs are assigned ECTS credits. Every semester comprises 30 credits while each credit is valued 30 working hours. The modules usually consist of three (in some cases two or four) courses relating to one overarching topic and are thus compiled in a meaningful structure. Feedback concerning the workload is collected through the course evaluation survey at the end of the study year and adaptations are made if necessary. During the on-site visit, the students confirm that the workload is generally well reflected by the number of credits awarded and more or less equally divided through the study years and program. They also emphasize that they have enough time for repetition and self-study and also to work on the side in order to finance their studies. The peers consider the workload to be overall manageable and transparent.

During the discussions on-site, the peers learn that some SESAME representatives are involved in a committee that is acting on ministry level and focusing on the reform of the workload system at Tunisian (private) institutions. Currently, students in Tunisia face a very large amount of presence/attendance hours (450 hours per semester, as prescribed by the

ministry). One of the main aims of this committee is to reduce the presence hours and add more hours for self-studying time, which the peers highly support.

Criterion 1.6 Didactics and Teaching Methodology

Evidence:

- Module descriptions
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

From the presented material as well as the discussions on-site, it becomes apparent that the pedagogical skills and adequate teaching methodology are highly valued at SESAME and in the program under review. The pedagogical skills and teaching methods are also part of the evaluations that SESAME carries out for each course.

As was already pointed out, the teaching methodology in the program is strongly attached to practical approaches and the students' ability to find adequate jobs after the completion of the programs. Teaching is usually done in the form of lectures, seminars, tutorials and practical work. To support the practical orientation, SESAME follows a project-based learning approach with several mini projects and end-of-year projects throughout the studies, next to the final project which is also aimed at the practical application of the competencies acquired during the studies. The aim of the project-based learning approach is to actively involve the students in the learning process, increase their motivation and to continuously convey soft skills. The peers highly acknowledge this student-centered approach of teaching and learning.

The peers acknowledge that all members of the teaching staff are dedicated and committed to good teaching and are also open to use new/alternative forms of teaching where appropriate. Overall, the teaching methodology is considered up-to-date and adequate in order to convey the contents envisaged by the program.

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

[...]

2. Exams: System, Concept and Organization

Criterion 2 Exams: System, concept and organization

Evidence:

- Examination regulations
- Module descriptions
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

At SESAME, assessment is conducted according to the regulations defined in the examination regulations and the exam charter. The assessment system at SESAME has two purposes: a formative and a summative purpose. The formative assessments are used by the lecturer to continuously monitor the progress of achieving the course objectives and usually take place in the middle of the semester. A typical form of continuous monitoring is reporting on a specific topic, an oral presentation or a combination thereof. The summative assessments are used to display whether the course objectives have been met at the end of each semester. The panel as well as the students welcome the continuous learning assessment as it not only allows a close monitoring of the students' learning progress but also encourages students' motivation throughout the semester. By way of helping students to consciously assess their actual state of knowledge, the assessment procedure at the same time contributes to an adequate exam preparation.

The organization of the exams guarantees examinations that avoid delay to students' progressions. The relevant rules for examination and evaluation criteria are transparently put into a legal framework, as both students and lecturers confirm in the audit discussions. All final exams take place within a certain timeframe at the end of each semester. This timeframe (exam week) is communicated at the beginning of each academic year. Before each exam week, SESAME carries out a revision period of one week for students to prepare intensively for their final exams. A detailed schedule is published in due time that informs about the exact time and date when each exam takes place.

During the on-site visit, the peers were provided with a selection of exams and final projects to check. The peers note that, as a consequence of the fact that the orientation of the program is rather practical, the requirements and standards of most of the exams presented do lack scientific and conceptual aspects, too. Moreover, it is striking that almost all exams are traditional written exams, which is rather untypical in an advanced degree program. As described under criterion 1.3, the peers ask SESAME to introduce more conceptual and scientifically-oriented aspects into the curriculum. As a consequence, this must also be reflected in the exams in the future by increasing their academic standard and including more advanced topics. The peers stress that if the students are expected to be able to solve problems and to find solutions, this needs to be trained in the exams as well. As a

consequence, the requirements of the exams need to focus more on conceptual work, problem-solving skills and links between different contents. In addition, the peers highly recommend introducing alternative forms of examination in order to ensure that the learning outcomes to be achieved can be adequately verified.

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

[...]

3. Resources

Criterion 3.1 Staff and Development
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Evidence:

- Teaching staff manual
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

In the self-assessment report, SESAME presents data about the number and overall qualification of staff for the program under review and during the discussion on site, the peers gain a good impression of the quality of the teaching personnel. By the time of the on-site visit, 16 full-time permanent teachers are employed at SESAME. The teaching staff is selected on the basis of training, qualification and expertise. For each module, there is a coordinator who is responsible to ensure the quality of teaching. The peers learn that a recruitment process takes place annually and that most employees (and also applicants) hold a PhD and can pursue a tenure-track career. In addition, a large number of mostly very experienced and highly qualified non-permanent professors have been working at SESAME for many years and the peers are impressed by their commitment to SESAME. During the discussion with the program coordinators and the teaching staff, the peers learn that a difference between permanent and non-permanent staff exists only on paper, as all of them are treated equally in practice (the only difference being that not all non-permanent teachers have their own office). The peers learn that majority of these very experienced but non-permanent professors work at public universities. The private institutions recruit them as part-time staff in order to improve their reputation, their teaching and their overall quality. Professors from public institutions are also encouraged by the ministry to get in-

involved in the teaching and advisory affairs and development of curricula at private universities. Teaching by non-permanent teaching staff is further supported by representatives from the industry. Through its many cooperations with companies from different fields, SESAME successfully recruits industry representatives that function as experts in order to ensure that the needs of the industry are reflected in the curricula and to build a bridge between science and industry. During the discussions on-site, the peers learn that – similarly to the non-permanent professors – most of these industrial representatives have been engaged at SESAME for many years.

In order to ensure the continuous further development of its staff members, SESAME offers different kinds of trainings, courses and certifications that are organized on a regular basis. Training courses are aimed at the introduction of new teaching methods and pedagogical/didactical approaches in order to improve the quality of teaching. All staff members can also regularly participate in online trainings offered by the Francophone University Agency (AUF). Moreover, SESAME offers a variety of summer schools for both teachers and students each year.

During the discussions on-site, the peers learn that all that staff members are encouraged to do research (at other institutions), and that they can apply for funding in order to participate in international conferences. If a research paper is accepted, SESAME pays for the registration and participation fees for its staff members. The peers acknowledge that most of the SESAME staff members actually do conduct active research.

As was discussed under criterion 1.3, the peers would highly welcome if the parts of the curriculum that are taught in English increase in the future. However, during the discussion with the teaching staff, they learn that not all staff members have sufficient English skills in order to teach modules on an academically advanced level. Since SESAME is following an internationalization strategy and the students are very eager to study more subjects in English, the peers highly recommend improving the English language proficiency of the staff members, for example by dedicated English language courses for the staff (and as a consequence, increase the parts of the curriculum that are taught in English, cf. criterion 1.3).

Overall, the peers confirm that the composition, scientific orientation and qualification of the teaching staff are suitable for successfully implementing and sustaining the degree program. The panel is impressed by the excellent and open-minded atmosphere among the students and the staff members. The peers also conclude that SESAME is actively promoting and supporting internal knowledge transfer and encouraging its employees to further develop their professional and educational skills.

Criterion 3.2 Funds and equipment
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Evidence:

- Self-assessment report
- Cooperation agreements
- Discussions during the on-site visit
- Inspection of laboratories and other facilities during the on-site visit

Preliminary assessment and analysis of the peers:

In the self-assessment report, SESAME gives a detailed overview of its financial and material resources, the available technological infrastructure and existing cooperation agreements that facilitate the implementation of its study programs. Being a completely private institution, SESAME is funded solely by tuition fees and donations from private enterprises as no government support is provided to sustain the institution.

During the on-site visit, the peers gain a comprehensive impression of SESAME's facilities and laboratories. The peers are convinced that the teaching and office facilities and the computer labs are sufficient for all students and staff members for the conveyance of the program's fundamentals and that the equipment is also developed enough to allow for further research and projects on the academic level envisaged by the program.

In summary, the peers are convinced that the current funding allows for maintaining the standards as well as purchasing further equipment, if necessary, and that SESAME generally holds enough workspaces with adequate equipment. Both students and teachers are generally very satisfied with the infrastructure and equipment available to them.

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

[...]

4. Transparency and documentation

Criterion 4.1 Module descriptions
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Evidence:

- Module descriptions
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

SESAME presents module descriptions for all modules offered in the program under review. The peers notice that while all necessary categories are included, the module descriptions

are in several cases rather unspecific, as in particular the description of the qualification goals (i.e. learning objectives) is often too short and thus does not give a sufficient overview of the expectations and outcomes of the module. In addition, they also find that many module descriptions do not contain sufficient information on academic literature.

The peers thus ask SESAME to complete all module descriptions with detailed learning objectives and a scientific bibliography, including also recommendations for further (academic) reading material.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Sample diploma
- Sample Diploma Supplement
- Sample Transcript of Records

Preliminary assessment and analysis of the peers:

With the successful completion of their studies, the students receive a graduation certificate, a transcript of records, and a diploma supplement. The diploma supplements are issued in French and English and contain all relevant information on the student's qualifications profile and individual performance as well as the classification of the degree program with regard to its applicable education system.

Criterion 4.3 Relevant rules

Evidence:

- Examination and study regulations
- Official regulations for admission
- Cooperation agreements
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

From the documents provided and the discussions during the on-site visit, the peers learned that SESAME follows a policy of transparent and open rules and regulations. All required rules and regulations are made accessible to students. The discussion with the students confirmed that they feel well informed about regulations and comfortable about the access to any information about their degree program.

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

[...]

5. Quality management: quality assessment and development

Criterion 6 Quality management: quality assessment and development

Evidence:

- SESAME Quality Management
- Relevant statistics
- Self-assessment report
- Discussions during the on-site visit

Preliminary assessment and analysis of the peers:

From the documents presented and from the discussions during the on-site visit, the peers gain an overall positive impression of the quality management procedures that are in place at SESAME and for the program under review.

Since SESAME is a private university funded exclusively by tuition fees the reliance on students' feedback and the necessity to ensure and improve the employability of the graduates are of major importance to the coordinators. Each course is being evaluated constantly through different surveys by teachers and students. Here, SESAME aims at reaching response rates of at least 60-70 % per evaluation and continuously strives to increase these rates and encourage students to use their opportunity to have an influence on the courses and teaching. Further surveys are carried out gathering statistics about graduates and alumni. The discussion with the students revealed that those in charge are always eager and open for feedback aside from the official evaluations and that students have the impression that their comments are taken into consideration with regard to the further improvement of the program. This becomes explicit in the constant curricular revision process that is performed under participation of students and industry partners. The industry representatives confirm in the discussion that the university is eager to receive feedback about new developments and trends and the employability of their graduates. That this process is fruitful and effective becomes visible in the high percentage of graduates that find employment immediately after graduation.

Concerning the internal feedback loops, the peers acknowledge that results of the course evaluations are centrally assessed and analyzed. However, they learn from all stakeholders that the evaluation results are not discussed with the students in class, which leaves the feedback loop effectively open. The peers gain the impression that students are generally very outspoken at SESAME and that, given the general small sizes of the classes, they contact their teachers directly in case of criticism. Nonetheless, the peers are of the opinion that SESAME must improve its quality management system by making sure that the results of the evaluations (and measures derived from them) are followed up and communicated to all stakeholders, in particular the students.

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

[...]

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (08.03.2023)

The institution refrains from commenting on the report, as it fully agrees with it as it stands.

F Summary: Peer recommendations (05.03.2023)

The peers summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
National Diploma Computer Science Engineering	With requirements for one year	30.09.2028	EUR-ACE®	30.09.2028

Requirements and recommendations for the applied labels

Requirements

- A 1. (ASIIN 1.3; 2) Increase the proportion of conceptual and scientific aspects in the core modules of the program and adapt module descriptions and exams accordingly.
- A 2. (ASIIN 1.3) Introduce an obligatory module on scientific work and scientific methods.
- A 3. (ASIIN 4.1) All module descriptions must be completed with regard to detailed learning objectives and a scientific bibliography including underlying material as well as further reading material.
- A 4. (ASIIN 5) The results and any measures derived from the evaluations must be communicated to the students.

Recommendations

- E 1. (ASIIN 1.3) It is recommended to convey a better understanding of the dependencies of and links between the different modules and subjects.
- E 2. (ASIIN 2) It is recommended to introduce more alternative forms of examination, other than written exams and presentations in order to assess advanced competencies.
- E 3. (ASIIN 1.3) Consider introducing bigger modules where you combine contents and add conceptual aspects.

- E 4. (ASIIN 1.3) It is recommended to improve mobility opportunities, in particular in terms of incoming students.
- E 5. (ASIIN 1.3) It is recommended to think about and formulate a common understanding/vision of the objectives and expectations of an engineer.
- E 6. (ASIIN 1.3) It is recommended to continuously improve English language proficiency of the staff members (and as a consequence, increase the parts of the curriculum that are taught in English).

G Comment of the Technical Committees

Technical Committee 04 – Informatics/Computer Science (08.03.2023)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee agrees with the assessment of the peers without any changes.

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

The Technical Committee deems that the intended learning outcomes of the degree programmes do comply with the engineering specific parts of 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	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
National Diploma Computer Science Engineering	With requirements for one year	30.09.2028	EUR-ACE®	30.09.2028

Requirements and recommendations for the applied labels

Requirements

- A 1. (ASIIN 1.3; 2) Increase the proportion of conceptual and scientific aspects in the core modules of the program and adapt module descriptions and exams accordingly.
- A 2. (ASIIN 1.3) Introduce an obligatory module on scientific work and scientific methods.
- A 3. (ASIIN 4.1) All module descriptions must be completed with regard to detailed learning objectives and a scientific bibliography including underlying material as well as further reading material.
- A 4. (ASIIN 5) The results and any measures derived from the evaluations must be communicated to the students.

Recommendations

- E 1. (ASIIN 1.3) It is recommended to convey a better understanding of the dependencies of and links between the different modules and subjects.
- E 2. (ASIIN 2) It is recommended to introduce more alternative forms of examination, other than written exams and presentations in order to assess advanced competencies.
- E 3. (ASIIN 1.3) Consider introducing bigger modules where you combine contents and add conceptual aspects.
- E 4. (ASIIN 1.3) It is recommended to improve mobility opportunities, in particular in terms of incoming students.
- E 5. (ASIIN 1.3) It is recommended to think about and formulate a common understanding/vision of the objectives and expectations of an engineer.
- E 6. (ASIIN 1.3) It is recommended to continuously improve English language proficiency of the staff members (and as a consequence, increase the parts of the curriculum that are taught in English).

H Decision of the Accreditation Commission (24.03.2023)

Assessment and analysis for the award of the ASIIN seal:

The Accreditation Commission discusses the procedure and follows the recommendations of the peer group and the Technical Committee without any changes.

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

The Accreditation Commission deems that the intended learning outcomes of the degree programmes do 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	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
National Diploma Computer Science Engineering	With requirements for one year	30.09.2028	EUR-ACE®	30.09.2028

Requirements and recommendations for the applied labels
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Requirements

- A 1. (ASIIN 1.3; 2) Increase the proportion of conceptual and scientific aspects in the core modules of the program and adapt module descriptions and exams accordingly.
- A 2. (ASIIN 1.3) Introduce an obligatory module on scientific work and scientific methods.
- A 3. (ASIIN 4.1) All module descriptions must be completed with regard to detailed learning objectives and a scientific bibliography including underlying material as well as further reading material.
- A 4. (ASIIN 5) The results and any measures derived from the evaluations must be communicated to the students.

Recommendations

- E 1. (ASIIN 1.3) It is recommended to convey a better understanding of the dependencies of and links between the different modules and subjects.
- E 2. (ASIIN 2) It is recommended to introduce more alternative forms of examination, other than written exams and presentations in order to assess advanced competencies.
- E 3. (ASIIN 1.3) Consider introducing bigger modules where you combine contents and add conceptual aspects.
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- E 5. (ASIIN 1.3) It is recommended to think about and formulate a common understanding/vision of the objectives and expectations of an engineer.
- E 6. (ASIIN 1.3) It is recommended to continuously improve English language proficiency of the staff members (and as a consequence, increase the parts of the curriculum that are taught in English).

I Fulfilment of Requirements (22.03.2024)

Analysis of the experts and the Technical Committee (29.02.2024)

Requirements

For both degree programmes

- A 1. (ASIIN 1.3; 2) Increase the proportion of conceptual and scientific aspects in the core modules of the program and adapt module descriptions and exams accordingly.

Initial Treatment	
Experts	Not fulfilled. Justification: The experts acknowledge that there has been notable progress in the modules covered. The module structure has been restructured, lecturers have been assigned to each meta field and now are responsible for teaching in that field and modules have been merged into bigger ones. The established structures (grouping and merging of modules, academic coordinators, ...) support the goal expressed by the requirement. They even are necessary prerequisites. However, the experts agree that the essential final step to increase conceptual and scientific aspects is not sufficiently addressed. The experts did not find the promised section "Conceptual and Scientific aspect addressed by the module" in all module descriptions. Furthermore, it had been criticized that the content of some modules is too technology-oriented and too much oriented e.g. to a concrete programming language like Java. The university states that some modules have been renamed to better reflect conceptual aspects addressed. An example is the renaming of the module "JAVA Object Oriented Programming" to "Object Oriented Programming". However, after reviewing the module description, the experts came to the conclusion that it is still (only) an introduction to Java. Ultimately, it appears that certain modules are still lacking in depth, both conceptually and scientifically, and do not fully meet the established requirements which is why the experts do not yet consider the requirement to be fulfilled.
TC 04	Not fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts without any changes.

AC	Not fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts without any changes and add that the university should submit complete documentation and, if necessary, add a comparison of the changes made.
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A 2. (ASIIN 1.3) Introduce an obligatory module on scientific work and scientific methods.

Initial Treatment	
Experts	Fulfilled. Justification: SESAME introduced a new module "I5_973 Introduction to scientific research" with Slim Mhiri as teacher in charge. The module will be taught in the last term of the study program. As the teacher in charge is actively publishing, this seems to be a good choice. Also, the content description of the module is appropriate to teach students how to work scientifically
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts without any changes.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts and the TC without any changes.

A 3. (ASIIN 4.1) All module descriptions must be completed with regard to detailed learning objectives and a scientific bibliography including underlying material as well as further reading material.

Initial Treatment	
Experts	2 Experts: Not fulfilled 2 Experts: Fulfilled Justification: 2 Experts (not fulfilled): In their statement, the university describes that each module description has now a description of "Conceptual and Scientific aspect addressed by the module". However, this section could not be found in all module descriptions and some descriptions exhibit inconsistencies. In order to better recognise which changes have actually been made and whether all missing aspects are now consistently addressed in all descriptions, the experts suggest that the changes should be presented more explicitly. For example, a juxtaposition of the old

	and new descriptions could provide clarity. At this stage, however, the experts cannot fully confirm from the descriptions submitted that all module descriptions now contain the required information. They therefore do not yet consider the requirement to be fully met. 2 Experts (fulfilled): The university has adhered to most of the requested points within the requirements. While some modules may lack certain details and exhibit slight inconsistencies, possibly due to individual module descriptions by respective teachers. Overall, the requirements have largely been met.
TC 04	Not fulfilled. Vote: unanimous Justification: The TC agrees that the requirement cannot yet be considered fully met, as not enough information has been provided for all modules. The TC is also in favour of revising and completing the module descriptions again.
AC	Not fulfilled. Vote: unanimous Justification: The AC agrees with the TC that the requirement cannot yet be considered fully met. The AC is also in favour of revising and completing the module descriptions again.

- A 4. (ASIIN 5) The results and any measures derived from the evaluations must be communicated to the students.

Initial Treatment	
Experts	Not fulfilled. Justification: The experts are of the opinion that the described approach retained similar to what has been discussed during the audit and still excludes direct student involvement in the evaluative process. The statement "Results of the evaluation survey are shared with teachers after discussions with the Director of Studies, Department Heads, Meta Domain Coordinators, and Administration" suggests a disconnect. The process appears to end with the collection of student feedback, without subsequent steps to ensure transparency and sharing of the findings and summaries with the students. Therefore, the university still needs to ensure that the results and measures derived from the evaluations are communicated to the students.
TC 04	Not fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts without any changes.

AC	Not fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts and the TC without any changes.
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Decision of the Accreditation Commission (22.03.2024)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
National Diploma Computer Science Engineering	Requirements 1, 3, and 4 not fulfilled	EUR-ACE®	6 months prolonging

J Fulfilment of Requirements (24.09.2024)

Analysis of the experts and the Technical Committee (05.09.2024)

Requirements

- A 1. (ASIIN 1.3; 2) Increase the proportion of conceptual and scientific aspects in the core modules of the program and adapt module descriptions and exams accordingly.

Secondary Treatment	
Experts	Fulfilled. Justification: The University added to each module a description of the conceptual and scientific aspects contained in a module. In addition, the University delivered dependency graphs indicating how the modules relate to each other, which is quite positive as well. Overall, the documents have been revised to such an extent and the content of the individual modules has been extended and adapted that the requirement can now be considered fulfilled.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts and the TC without any changes.

- A 3. (ASIIN 4.1) All module descriptions must be completed with regard to detailed learning objectives and a scientific bibliography including underlying material as well as further reading material.

Secondary Treatment	
Experts	Fulfilled. Justification: The module descriptions have now been fully revised and completed so that all the required information is now provided.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous

	Justification: The AC follows the assessment of the experts and the TC without any changes.
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- A 4. (ASIIN 5) The results and any measures derived from the evaluations must be communicated to the students.

Secondary Treatment	
Experts	Fulfilled. Justification: The University submitted a detailed description of the revision of the teaching evaluation procedure. This allows the experts to verify that it is now formally ensured that the results of the teaching evaluations are communicated to the students. The university was also able to provide examples that demonstrate the reliable implementation of this rule in practice.
TC 04	Fulfilled. Vote: unanimous Justification: The TC follows the assessment of the experts.
AC	Fulfilled. Vote: unanimous Justification: The AC follows the assessment of the experts and the TC without any changes.

Decision of the Accreditation Commission (24.09.2024)

Degree programme	ASIIN-label	Subject-specific label	Accreditation until max.
National Diploma Computer Science Engineering	All requirements fulfilled	EUR-ACE®	30.09.2028