ASIIN Seal

Accreditation Report

Master's Degree Programme
Advanced Digital Technologies for Business
(formerly: Advanced Digital Skills)

Provided by
National College of Ireland
Universidade Nova de Lisboa (UNL)
Université Paris 8 Vincennes-Saint-Denis
Università di Bologna (UNIBO)

Version: 24.09.2024

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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]
Professional Master's in Advanced Digital Technologies for Business (formerly: Advanced Digital Skills)	/	ASIIN	/	07
Date of the contract: 13.11.2023 **Submission of the final version of the self-assessment report:** 30.04.2024 **Date of the onsite visit:** 04.-05.06.2024 **at:** German University of Digital Science (Potsdam) and National College of Ireland (Dublin)				
Expert panel: Prof. Dr. Susanne Robra-Bissantz, Technical University of Braunschweig Prof. Dr. Ralf Kramer, Stuttgart University of Applied Sciences (HFT Stuttgart) Dr. Jan Christian Dammann, Senior Software Architect, Iteratec GmbH Alexandre Al Ajroudi, Student at Institut National des Sciences Appliquées de Toulouse				
Representatives of the ASIIN headquarter: Dr. Siegfried Hermes, Christin Habermann (virtually)				
Responsible decision-making committee: Accreditation Commission for Degree Programmes				
Criteria used: European Standards and Guidelines as of May 15, 2015				

[1] ASIIN Seal for degree programmes; Euro-Inf®: Label European Label for Informatics

[2] TC: Technical Committee for the following subject areas: TC 07 - Business Informatics/Information Systems

ASIIN General Criteria, as of March 28, 2023

B 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
Advanced Digital Technologies for Business (formerly: Advanced Digital Skills)	Professional Master's in Advanced Digital Technologies for Business	/	7	Full time Part time Part time (accelerate)	Joint Degree	2 Semester (full time); 4 Semester (part time); 3 Semester (part time accelerated)	60 ECTS	Twice per year; September 2024

For the Master's degree programme the institutions have presented the following profile in their self-assessment report:

"The Joint Master's in Advanced Digital Skills programme has been developed in accordance with a multi-beneficiary grant agreement with the European Health and Digital Executive Agency (HADEA) within the framework of the Digital Europe Programme, Regulation (EU) 2021/694 of the European Parliament and of the Council of 29 April 2021 establishing the Digital Europe Programme and repealing Decision (EU) 2015/2240, with respect to provision of funding for Project 101084013 - DIGITAL4Business.

The DIGITAL4Business consortium is a partnership of 17 stakeholders led by National College of Ireland, bringing together key industry, technology, and education stakeholders in Europe.

Its composition is presented in the following table:

Partners	Acronmy
National College of Ireland	NCI

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

Alma Mater Studiorum – Università di Bologna	UNIBO
German University of Digital Science GGmbH	German UDS
Consorzio Interuniversitario Nazionale per l'Informatica	CINI
AKKA Italia (former Modis Consulting SRL)	Akkodis
Adecco Formazione SRL	ADECCO
Lee Hecht Harrison Deutschland GmbH	LHH
Skillnet Ireland Company Limited by Guarantee	Sillnet Irl
Université Paris 8 Vincennes-Saint-Dennis	UP8
Linköpings Universitet	LIU
Terawe Technologies Limited	Terawe
Matrix Internet Applications Limited	Matrix
Digital Technology Skills Limited	DTSL
Universidade Nova Lisboa	UNL
Schuman Associates SCRL	Schuman
Associated Partners	Acronym
Certiport, A business of NCS Pearson Inc	Certiport
DIGITALEUROPE AISBL*	DIGITALEUROPA

The DIGITAL4Business European Joint Master's Degree in Advanced Digital Skills programme aims to design and implement a highly innovative, effective, and sustainable European EQF Level 7 programme in Advanced Digital Skills. This contributes to the overall objectives of the DIGITAL Europe Programme by fast-tracking a high number of graduates through a dynamic pan-European stakeholder ecosystem. In the latter, HEIs, Research Centres, Employment Services, and Industry work together to design, promote, deliver and improve an innovative Master's programme. It will focus on the practical application of Advanced Digital Skills within European Business, an entirely market-led academic programme driven and designed to meet the current and future (up)-skill needs of SMEs and Companies. […]

Graduates from the programme will help organisations digitally transform and scale into the future. The programme has been designed with industry standards and needs in mind, to fill the gap between higher education and the job market. The Digital4Business consortium's partners 15 partners from 7 EU countries have a unique unified vision of a centralised hub of advanced digital skills learning, that continuously evolves along with the technological and business needs of industries all over Europe. In addition, an industry advisory board from across Europe has been formed to participate in the design phase to ensure the programme is tailored to the needs of the market.

The Joint Master's Degree in Advanced Digital Skills is designed to cater to diverse learners, including business leaders, industry professionals without technical backgrounds, and recent graduates in business disciplines. By imparting advanced digital knowledge and fostering a forward-thinking approach, the programme aims to enable individuals and organisations to thrive in the digital era. This programme will empower participants to understand, leverage, and navigate the digital landscape effectively, thereby fostering innovation, competitiveness, and sustainable growth in their organisations.

The following partner Higher Education Institutions (HEIs) will be actively participating in the delivery of the programme:

- National College of Ireland (NCI)
- Alma Mater Studiorum – Università di Bologna (UNIBO)
- German University of Digital Science GGmbH (German UDS)
- Linköpings Universitet (LIU)
- Universidade Nova de Lisboa (UNL)
- Université Paris 8 Vincennes-Saint-Denis (UP8)

These HEIs, in conjunction with the Digital4Business consortium's industry partners, have collaborated and cooperated to jointly develop and design the proposed programme and its curriculum.

The Joint Master's Degree in Advanced Digital Skills will be delivered fully online using a combination of synchronous and asynchronous delivery techniques. Each of the partner institutions has taken on the role of module owner for a subset of the programme's constituent modules. The assignment of module ownership to a particular partner has been based on the identification of key areas of subject matter expertise amongst the group of partners.

As delivery of the programme is fully online, there will be no requirement for learners to physically attend classes at any partner institution's geographical location. Learner mobility will predominantly be virtual – with learners enrolling on modules that will be delivered by faculty from the different institutional partners. In addition to this, learners will also have opportunities to attend various networking events, hackathons, etc. that are associated with the Master's programme. For such events, learners will have an option of either attending physically or online. The programme team believe that this will facilitate some aspect of physical mobility for learners within the programme. These events will be hosted by partner institutions in different countries as part of the programme's schedule."

Changes in the course of the statement of the universities:

Following the audit, it was decided that the German Digital University of Science would no longer be a partner in the consortium offering the degree programme. The programme is now formally developed and offered by five nationally recognised education institutions, namely the National College of Ireland (NCI),Universidade Nova de Lisboa (UNL), Université Paris 8 Vincennes-Saint-Denis (UP8), Università di Bologna (UNIBO), and Linköping University (LIU) with the first four expected to participate in the awarding of the degree.

In addition, the title of the study programme has also been changed after this report has been written. While the current title is “Professional Master’s in Advanced Digital Technologies for Business” the former title “Advanced Digital Skills” may still be found throughout this report.

C Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

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

Evidence:

- Study and Examination Regulation 2024
- Student Handbook 2024
- Diploma Supplement
- Objectives-Module-Matrix
- Systematic Needs Analysis of Advanced Digital Skills
- Self-Assessment Report
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:
The experts base their assessment of the learning outcomes on the information provided in the Self-Assessment Report, the Study and Examination Regulations 2024, the Student Handbook 2024, the Module Descriptions, the Objectives-Module-Matrix and the Diploma Supplement. The experts note that the information regarding the learning objectives of the degree programme is presented transparently and uniformly in all documents. However, these documents and regulations are not yet to be found on the official website of the degree programme (cf. criterion 4.3) and thus not available to potential students, industry representatives or other interested parties.

For the Master's degree Advanced Digital Skills, the following Minimum Intended Programme Learning Outcomes (MIPLOs) have been established:

[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.

- MIPLO1: Critically appraise, select, and employ existing and emerging technologies to address complex business problems and support innovation and digital transformation in business
- MIPLO2: Critically assess and evaluate sustainability, governance and ethical risks and impacts associated with digital transformation
- MIPLO3: Synthesise and communicate the opportunities, risks and critical challenges of digital transformation practices to underpin strategic decisions to key stakeholders
- MIPLO4: Demonstrate an in-depth understanding of the fundamental concepts and techniques of advanced digital skills from a business perspective
- MIPLO5: Cultivate, select, and employ transversal advanced digital skills and practices, evaluating their application in various contexts
- MIPLO6: Explore, strategically leverage, and implement advanced digital skills and practices to foster creativity at an individual, team, and organization levels

The study programme, including its learning outcomes, has been developed in a project funded by the European Union by a consortium of European universities and companies. It is primarily based on a needs analysis carried out in the companies. The results of this needs analysis were published in a scientific paper titled “Systematic Needs Analysis of Advanced Digital Skills for Postgraduate Computing Education: The DIGITAL4Business Case”. The strong role of industry in the development of the learning objectives should, from the universities' point of view, ensure that graduates receive exactly those skills that are currently needed in industry.

As part of the programme development process, several intended competence profiles for students were considered as being representative of general business roles that will need to develop advanced digital skills in the very next future as digital transformation continues to evolve. For example, the universities and their business partners found that procurement managers would need to embrace digital tools for efficient vendor management and cost optimization, small business owners must adapt to digital marketing, e-commerce and financial technologies to remain competitive, while HR professionals in companies of any size are tasked with managing digital talent acquisition and employee engagement tools. The idea behind this is that once students complete the mandatory “Digital Transformation” module, they can select from a suite of elective modules that align with their interests and their career goal. The mapping of modules to a set of sample roles serves as a guide for learners as they progress through their programme of study (cf. criterion 1.3 of this report). A full list of the professions and professional roles that were assessed can be found in Annex 2 of this report.

After reviewing the learning outcomes, the experts conclude that the degree programme is intended to provide people, who already possess professional experience and/or knowledge in companies with an understanding of the various digital tools and skills they need for the development of their personal career and their company.

It should be noted that graduates are not expected to be able to apply the digital skills they have learnt and got acquainted with rather on a management level – Data Science, Cloud Computing, etc. – in practice, i.e. they are not trained to become fully-fledged computer scientists or business informatics specialists. Rather, the degree programme aims to pick up people with fairly heterogeneous professional and/or academic background and provide them with the knowledge they need for their professional development or career aspirations about the multitude of digital skills that will help them solve problems in their (future) company. Even though the degree programme is open to Bachelor graduates with no previous professional experience, it is primarily aimed at people who are actively working or already have previous professional experience. In the view of the experts, this target group should be made even clearer in order to avoid misunderstandings regarding the objectives and to clarify why the qualification objectives are not so much aimed at practical learning but at an in-depth understanding of the fundamental concepts and techniques of advanced digital skills from a business perspective. In this regard, however, the auditors recommend to make the profession-oriented purpose of the programme more transparent.

In addition, the experts also recommend that the learning objectives of the degree programme should focus more on teaching core transferable skills, such as problem-solving skills, communication, collaboration, team competences and service orientation, skills that currently are not too prominent in the curriculum of the programme (cf. criterion 1.3 for more details).

The auditors regard the strong industry perspective, both during the development of the degree programme and during its implementation (cf. criterion 1.3), as one of the strengths of the degree programme. Further, the companies continue to be involved as associate partners even after the programme has been established and were also interviewed during the audit. It was reported that, for example, guest lectures are held by industry partners or voluntary guided tours are organised by companies. It is also possible to complete practical parts of the degree programme, such as the research project in the final semester, at one of the industry partners. Furthermore, timetables for the coming semesters show the extent to which the company partners hold regular meetings with the universities to ensure that the content of the modules is always up to date.

In summary, the experts confirm that the objectives and learning outcomes of the degree programme as a whole are described briefly and consistently, yet they are not published yet and thus not available for students, lecturers and interested third parties. The learning objectives reflect the target academic qualification and a professional activity corresponding to level 7 of the European Qualification Framework can be taken up. The relevance of the objectives and learning outcomes for both the labour market and society are planned to be regularly reviewed in a process that involves the relevant stakeholders (in particular from higher education and professional practice) and, if necessary, the objectives are revised accordingly.

It is important to note, however, that the German University of Digital Science has as of yet not been recognised as a higher education institution by the relevant German authorities (Wissenschaftsrat). As ASIIN can only grant accreditation to study programmes offered by nationally recognised higher education institutions, the award of the ASIIN seal must be suspended until the national recognition is available.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Study and Examination Regulation 2024
- Student Handbook 2024
- Diploma Supplement
- Diploma Certificate
- Self-Assessment Report
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:
The experts confirm that the title of the study programme reflects the teaching language of the programme (English) and is used consistently in all relevant documents.

They come to the conclusion, however, that “Advanced Digital Skills” currently does not match the learning outcomes and the curriculum of the programme.

As described under criterion 1.1, the degree programme is intended to provide people, who already possess professional experience and/or knowledge in companies with an understanding of the various digital tools and skills they need for the development of their personal career and/or their company.

The experts are of the opinion that the programme title “Advanced Digital Skills” does not match these learning objectives as the title promises that students will learn “advanced”

digital skills at the level of a Master's degree programme. The universities argue that every young person already has digital skills, for example, using computers or smartphones, and that any form of further training in this area is automatically “advanced”. Although the experts can understand this argument, they consider it to be misleading. In their view, the title of the degree programme should make clear that it is not about general advanced digital skills, such as those learned in a classic computer science or business informatics programmes, but that students learn advanced *knowledge* about digital skills for an entrepreneurial field.

The auditors thus ask the universities to adapt the name of the programme to better align with its learning outcomes and curriculum and suggest titles such as “Advanced Digital Skills for Business.”

Criterion 1.3 Curriculum

Evidence:

- Study and Examination Regulation 2024
- Student Handbook 2024
- Module Descriptions
- Objectives-Module-Matrix
- Self-Assessment Report
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:

Structure of the Programme

There are six universities (referred to as “parties”) involved in the Master’s degree programme: National College of Ireland (NCI), Alma Mater Studiorum - Università di Bologna (UNIBO), German University of Digital Science GGmbH (German UDS), Linköpings Universitet (LIU), Universidad Nova de Lisboa (UNL) and Université Paris 8 Vincennes-Saint-Denis (UP8). These parties can fulfil one of two cooperative participation roles, depending on whether or not a) the party is recorded on the certificate as a degree-awarding institution or b) the party is not recorded on the certificate as an institution but is listed in the Diploma Supplement as a contributing partner institution. The degree-awarding institutions currently are NCI, German UDS, UNIBO and UP8. The cooperation agreement between the parties state their individual responsibilities and roles.

The curriculum of the degree programme comprises a total of 60 ECTS credits. Each module has a scope of 5 or 10 ECTS credits. There are two mandatory modules with 10 credits each,

"Digital Transformation", which must take place in the first semester, and "Digital Transformation Project / Practicum", which must take place in the last semester. For the remaining modules students can choose from a total of 12 modules.

The programme is offered in three different modes of study: full-time (2 semesters, 30 credits each), part-time (4 semesters, 15 credits each) and part-time accelerated (3 semesters, 20 credits each). In either mode, the 2 mandatory modules are placed in the first and last semester, the remaining open credits in each semester must be taken in the form of elective modules.

These models are designed to accommodate the individual situations of students who are already working or have families, for example. The plan to offer the degree programme in these different variants is a clear added value for students in the view of the experts. As the modules, with the exception of the Module "Digital Transformation Project / Practicum" do not build on each other, the programme can be completed smoothly in all three variants. Exemplary study plans for all three modes of study can be found in Appendix 3 of this report.

Content

The degree programme consists of two compulsory modules, each worth 10 ECTS credits, and 12 compulsory modules worth 5 or 10 ECTS credits, from which students are free to choose. The elective modules are offered every semester. The modules will be delivered by faculties from different institutional partners.

Module Name	ECTS	Mandatory / Elective
Digital Transformation	10	Mandatory
AI for Business	10	Elective
Data Science for Business	10	Elective
Cybersecurity for Business	10	Elective
Cloud Computing for Business	10	Elective
Business Programming	5	Elective
Internet of Things	5	Elective
Blockchain Technologies	5	Elective
Quantum Computing	5	Elective
Data Governance and Ethics	5	Elective
Innovation	5	Elective
Generative AI	5	Elective
Risk and Change Management in Digital Business Environments	5	Elective
Digital Transformation Project / Practicum	10	Mandatory

Table 4. Module ECTS and Mandatory/Elective Status

In order to support students in selecting the modules relevant to them, the universities have developed so-called role profiles, as already mentioned under criterion 1.1, which assign compulsory elective modules to certain professions or professional orientations (see Appendix 2).

According to the self-assessment report, the compulsory module “Digital Transformation” serves as the cornerstone of the Master’s programme, establishing essential knowledge and skills that underpin various specialized fields. The module is designed to ensure that students develop a comprehensive understanding of the rapidly evolving digital landscape. Its learning outcomes are intended to directly link with other modules across the curriculum, creating a holistic learning experience. The other compulsory module “Digital Transformation Project / Practicum”, in which students will learn how to develop a proposal for digital transformation, comprises an in-depth literature review and project plan as well as a report.

After reviewing the exemplary curricula, the module descriptions, the role profiles for selecting the individual elective modules and the matrix of module objectives, the reviewers came to the conclusion that the curriculum is well suited to realising the intended learning objectives. However, they consider it useful if students also acquire core transferable skills such as problem-solving, communication, collaboration, service orientation and team competence. The auditors are aware that skills such as communication, collaboration and teamwork are more difficult to implement in a purely virtual degree programme than in a face-to-face degree programme, where students learn and work together face-to-face. Nevertheless, these skills should also be taught in a virtual environment, as they are key competences in a company.

Student Mobility

The joint-degree programme is a virtual programme meaning that while students partake in modules offered by different universities, they attend them solely digitally. As such, physical student mobility is not a priority. To support physical student mobility, the universities offer hybrid events that can be joined both virtually and on-site. Ideas for such events include hackathons with judging panels comprised of industry representatives, visits to cooperate facilities or networking events.

The auditors note that this is a purely digital study programme and that it is primarily aimed at students who are already in employment. Under these circumstances, it is understandable that the university does not present a strategy that promotes physical student mobility, for example through classic physical exchange programmes with other universities.

However, the evaluators note that exchanges take place in the sense that different European universities offer the modules and professors, industry partners and students from different countries come together.

The auditors consider it sensible that the universities are also planning to offer some events in person on a voluntary basis.

Should students decide to spend a semester at an on-campus university, this is entirely possible due to the optional modules and the different study options (part-time, part-time accelerated) and is supported by the universities through the recognition of credits earned at other universities in accordance with the Lisbon Convention.

Periodic Review of the Curriculum

According to the Internal Quality Handbook, the Master's Board of Directors, comprised of the Programme Directors that have been selected by each of the partner institutions, are responsible for all matters concerning the degree programme, including its curriculum. The Master's Board meets twice a year and discusses or decides upon changes to the curriculum. In addition, the Quality Enhancement and Curriculum Development (QECD) Committee, composed of at least one academic faculty member from each partner institution, prepares and implements on behalf of the Master's Board of Directors quality enhancement and curriculum development. The QECD Committee meets whenever called upon or whenever the annual internal quality procedures requires it (cf. criterion 5). The QECD Committee assists in evaluating the degree of achievement of learning objectives and the coherence of the programme and ensures that there are effective procedures for data collection, information analysis and proposals and the channelling of suggestions for improvement of the degree programme.

To collect feedback from all relevant stakeholders, especially the students, the universities set up procedures for academic performance analysis, for suggestions and complaints, for the quality enhancement planning as well as student module level satisfaction surveys. The results of all these procedures and surveys will be incorporated into the further development of the curriculum.

Criterion 1.4 Admission Requirements

Evidence:

- Cooperation Agreement
- Exam and Study Regulation
- Self-Assessment Report

- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:
Under the supervision of the Master's Board, the Joint Admissions Board is responsible for the selection and admission of all students to the degree programme. The Joint Admission Board consists of one representative from each partner institution; it meets at least once after each application deadline.

The Study and Examination Regulations detail the application, selection and admission procedure, including the eligibility and selection criteria, language qualification requirement, the joint application and the admission procedure.

Admission may be granted to applicants who hold a minimum of an EQF Level 6 qualification and hold English proficiency of the level B2. In addition, "applicants who have graduated from programmes lacking embedded technical problem-solving skills must show additional technical proficiency and problem-solving abilities beyond their EQF Level 6 qualification. This can be demonstrated through industry certifications, further qualifications, or certified professional experience. Those who do not meet these criteria will be subject to an interview and further assessment to determine their suitability for the programme."

Recognition or prior learning (RPL) as compensation for missing prior knowledge is established, according to the Study and Examination Regulations and should provide for the consideration of applicants with lower, or no formal qualification, currently working in a relevant field, for admission onto the programme. The process includes evaluating the skills, knowledge, and experience through reviews of work portfolios, interviews, and practical assessments. Applicants submit portfolios detailing their relevant experiences, professional training, and certifications. RPL assessors then match these against course requirements. If equivalent, this prior learning can replace formal qualifications for admission. Should there be any gaps, the institution may recommend bridging courses to prepare the student for full admission.

Applicants who do not have the minimum academic qualifications will be assessed for entry based on prior learning and work experience, combined with a demonstrated commitment towards meeting the academic requirements of the programme. Entry will be assessed using a written application from the candidate and by interview. Recognition of Prior Learning will be assessed in accordance with this policy, this may require a portfolio of evidence (this may include but is not limited to submission of an essay, references, examination results, and module/micro-credential/programme/training syllabi completed by the applicant) and interview, or other assessment as determined by the Joint Admissions Board.

The Joint Admissions Board's determination that an applicant has the necessary numeracy skills will be based on the evidence provided. Typically, the determination of a sufficient numeracy skill level will be based on prior completion of modules/micro-credentials/programmes/training with a high degree of numerical/mathematical subject content (e.g., Statistics, Probability, Calculus, Operations Research, Quantitative Techniques, Econometrics, Optimisation, Discrete Mathematics, Accountancy, Financial Analysis etc.).

The experts recognize that the universities want to admit a heterogeneous student body for the joint degree. In principle, it is to be welcomed that not only students who have already completed a Bachelor's degree can apply, but that the programme also admits students without a previous university degree but with many years of professional expertise. However, the admission requirements are very vague and do not make clear which previous academic and/or professional knowledge is required in which area(s). First and foremost, the evaluators are of the opinion that there must be specific technical and scientific prerequisites for admission to the programme in general and the individual modules to ensure that only those applicants who can successfully complete the programme are accepted. During the audit, the programme managers mentioned that the technical knowledge was specified after the submission of the self-evaluation report, which the reviewers generally welcome. However, they ask that this be published in the official regulations and that the requirements for the modules be made clearer so that applicants know whether the course is suitable for them and that successful completion of the course is possible for all admitted applicants.

From the experts' point of view, one option would be to restrict access to the entire programme and only open it up to people who have a technical background and now want to build on this to establish their digital skills. The same would also be possible for people from a management or business background.

Another alternative, of course, would be to establish prerequisites for individual modules or module groups - for example along the lines of the already established role profiles. For example, a separate study path could be designed for each applicant from the pool of elective modules, ensuring that the applicant only takes modules that will advance their career and for which they have the necessary prior knowledge. The university states that for individual modules, for example "Programming for Business", these subject-specific requirements have already been defined, but have not yet been included in the module descriptions and are not binding. The universities are also already working on an AI solution for recommending individual study paths.

In the discussions with the four degree-awarding universities, the experts learned that the National College of Ireland already has many years of experience with testing sufficient

prior technical and IT knowledge for admission to a degree course. The experts therefore believe that the preliminary examinations of prior knowledge will be carried out adequately and that the exact requirements and the exact procedure only need to be set out in a binding manner so that prospective students can refer to them.

In summary, the experts state that there is a central admission procedure in which the responsible persons from all partner universities are involved and that the admission procedure is binding. They see the lack of subject-specific admission criteria (both academic and non-academic) as a weak point of the degree programme concept. The universities must specify the technical and scientific prerequisites of the programme and the individual modules in order to contribute to the enrolment of suitable applicants to the programme. Particularly with regard to applicants without previous academic qualifications, it must be ensured that they receive appropriate advice, for example in the selection of suitable elective modules.

Criterion 1.5 Workload and Credits

Evidence:

- Exam and Study Regulation
- Module Handbook
- Student Handbook
- Self-Assessment Report
- Discussion during the on-site visit

Preliminary assessment and analysis of the experts:
The study programme has a total of 60 ECTS credits, which are spread over 2 – 4 semesters depending on the study option. One ECTS credit corresponds to a student workload of 30 hours. The assessors can confirm that the workload includes contact and self-study periods and that all compulsory components of the degree programme are included. Credits are awarded for each module on the basis of the respective workload; modules have an individual workload of either 5 or 10 ECTS credits.

The experts find the estimated workload to be realistic and well-founded so that the study programmes can be completed in the standard period of study. The different study programme options (full-time, part-time, part-time accelerated) also take into account the individual situation of students, such as parallel employment or caring for relatives, and adapt the workload accordingly. However, the experts note that fundamental organizational issues such as semester timings (taking into account the fairly heterogeneous semes-

ter timings in Europe) are not addressed at all in the documentation provided. In the discussion during the on-site visit, external lecturers were presented as a possible solution to this issue.

The Internal Quality Handbook contains surveys of students on various topics relating to their studies. In the future, a student workload survey will also be conducted in this context to monitor whether the credits awarded for each module correspond to the actual student workload and whether the distribution of the workload across all semesters enables graduation within the standard period of study. However, this QA instrument has not been further elaborated in the handbook. For instance, it is not detailed how often such surveys shall be conducted or whether student workload shall be evaluated on programme or module or even unit level or whether a combination of all shall be established. The review team therefore concludes that the HEIs should detail and ensure a systematic and regular monitoring of the credit point allocation in order to identify and, if necessary, adapt the credit point allocation or the contents of the modules.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- CVs of involved staff members
- Self-Assessment Report
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, the Teaching, Learning and Assessment (TLA) strategy for the programme should provide students with an innovative mix of approaches to engage with the content of their modules and to demonstrate their learning. The TLA strategy seeks to combine lectures, tutorials, problem-based learning, enquiry-based learning, practical work, flipped classroom, seminars, case-based learning, project-based work as well as group work.

The programme is delivered entirely online through Direct E-Learning (DEL), which combines on-demand activities and live online classes using virtual classroom technology. Students must complete specific tasks independently at scheduled times on the programmes Learning Management System (LMS). This approach is chosen to help avoid overcrowded schedules, especially for students with limited time, and allows the programme team to keep track of student progress and engagement in the online courses.

Asynchronous activities may consist of reading or audio/video-based content, as well as practical lab exercises which must be uploaded to the LMS on a weekly basis. The synchronous class contact elements build upon and supplement the asynchronous and self-paced learning materials and activities on Moodle to create an environment whereby learners engage practically with materials outside of class time, leaving time for practical facilitation based directly on those materials in class-contact time.

The experts state that, in their view, the various forms of teaching and learning are suitable for achieving the intended learning objectives. However, the evaluators recognize that the didactic methods in the module descriptions must be much more specific, especially with regard to the aspect of a constructive alignment.

Although teaching is held virtually throughout, the involved universities recognise the importance of providing opportunities for enrolled students to also avail of physical mobility opportunities. Thus, each partnering HEI agrees to host at least one student mobility event during the academic session, which students can attend online as well as on-site.

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

Regarding the status of the German UDS

Given that the German University of Digital Science is not yet officially recognised as a higher education institution by the respective German ministry, the other consortium partners have decided that the German USD will be unable to formally participate in the module development and delivery of the study programme and will thus no longer offer the programme. As the programme is now only offered by universities that are state-recognised following the withdrawal of German UDS, the programme can be accredited by ASIIN.

Regarding criterion 1.2 – Name of the study programme

The D4B Consortium welcomes the remarks of the ASIIN Team regarding the name of the degree programme (“Advanced Digital Skills”), which, at the time of the on-site visit, appeared to be rather unspecific and not fully aligned with the learning objectives and content of the programme. Consequently, the D4B Consortium has decided to change the name of the main programme to "Professional Master’s in Advanced Digital Technologies for Business" to better reflect the spirit of the degree while maintaining the available content.

The auditors believe this to be a more fitting title that highlights the programmes strengths. The consortium now has the task of changing the title in all official documents (cf. criterion 8).

Regarding criterion 1.4 – Admission

In their statement, the universities remark that the stated requirements for admission are designed to be inclusive yet rigorous, thus welcoming applicants with diverse educational and professional backgrounds. The programme accepts candidates with a minimum EQF Level 6 qualification, while also allowing those without traditional academic credentials to demonstrate their technical proficiency through industry certification, further qualifications, or relevant professional experience. This flexible approach ensures that the programme remains accessible to a broad range of individuals while maintaining high standards to ensure the success of the students. Such a requirement should also enable the programme to contribute to addressing the urgent and evolving needs of the European workforce in the context of EU 2030 social and digital targets.

The universities explain that the decision to maintain a flexible and inclusive admission policy is both a strategic and necessary response to the digital transformation imperative facing Europe today, i.e. the EU 2030 social targets underscore the importance of continuous learning and upskilling, aiming for at least 60% of adults to participate in training annually and for 78% of the population to be in employment. Currently, the European labour market faces significant challenges, with over three-quarters of companies reporting difficulties in finding workers with the necessary skills, and only 37% of adults engaging in regular training. Furthermore, the Digital Economy and Society Index reveals that 4 out of 10 adults, as well as every third working individual in Europe, lack basic digital skills. The situation is exacerbated by the underrepresentation of women in tech-related professions, with only 1 in 5 ICT specialists and 1 in 3 STEM graduates being women.

Considering these challenges, the programme's inclusive approach to admission is not merely a reflection of a desire to a diverse cohort; it is a deliberate access to broaden access to digital education and skills development, thereby contributing to the achievement of these critical EU targets.

The experts note that the universities have dealt intensively with the labour market and the current challenges in the area of digital skills and further developments and have developed a degree programme to counteract this gap. The reviewers see the fact that not only traditional Bachelor's graduates are addressed, but also people without previous academic qualifications in particular, as a strength of the programme that should definitely be maintained.

Nonetheless, in addition to a level of EQF 6, the knowledge or skills that applicants must have for the programme as a whole or for individual modules must be specified. Otherwise, someone who has no prior knowledge in the required area could be accepted onto the programme. The extent to which the universities define the prior knowledge is up to them.

However, it must be clear to prospective students whether they are suitable for the programme. For example, the university could publish a list of Bachelor's degree programmes or professional positions that qualify for the course. A list of necessary prior knowledge could also be published. In all respects, however, subject-specific requirements must be established to ensure that only those students who have the necessary prior knowledge to successfully complete the degree programme actually begin it.

Regarding criterion 1.5 – Workload and Credits

The universities state that the student workload survey will be revised to include a dedicated question on the workload. In addition, the QM manual will also be revised to clearly mention and describe the allocation of credit points and the monitoring of student workload. It will also be clearly stated that the workload monitoring takes places at both the module and programme levels.

The experts consider the measures planned by the universities to be sensible. However, a corresponding requirement remains in place until these are implemented.

The experts conclude that this criterion is not fulfilled.

2. Exams: System, Concept and Organisation

Criterion 2 Exams: System, Concept and Organisation

Evidence:

- Exam and Study Regulation
- Module Descriptions
- Self-Assessment Report
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:
According to the self-assessment report, all exams are designed to assess the extent to which the defined learning objectives have been achieved.

Regarding the assessment methods, the Study and Examination Regulations states that each module will employ a variety of assessment methods to evaluate different competencies, including automated quizzes for immediate feedback, peer-assessed assignments to foster collaborative learning, and project-based assessment that simulate real-world challenges. The module descriptions lists the following assessment methods: continuous assessment, proctored written test, project, proposal, artefact and report. While some of

these assessment forms are further described in the module descriptions, it overall remains vague what the content and scope of these examinations are. This should be anchored in the Study and Examination Regulations so that students know, what will be expected of them. Apart from this, however, the reviewers consider it very useful for the module descriptions to state which learning objectives are assessed in the examination, the semester week in which the examination takes place and the weighting of the examinations. However, they doubt whether a distinction in weights between, e.g., 30%/70% and 40%/60% makes sense. The reviewers consider the fact that two examinations must be taken in each module unobjectionable in terms of the workload, as the examinations extend over the entire semester.

The Digital Transformation Project / Practicum module stands as a capstone module for the programme. This final project is designed to demonstrate students' comprehensive understanding and competence in digital transformation within a practical, real-world context and demonstrates that students are able to work independently on a task at the intended level of the programme. Students are encouraged to undertake this module in cooperation with the industry; in this case, the universities assume responsibility for their content and for suitable conditions in the respective company or organisation.

Examinations are marked according to transparent criteria; grading rubrics for assignments are provided to students and lecturers will provide general assessment feedback regarding assignments in a timely manner (typically within two weeks of the submission date).

The Study and Exam Regulations define that if the overall module assessment or examination results in an insufficient grade or the student does not show up on a fixed date or withdraws, the assessment or examination must be repeated in a repeat assessment or resit. Students can apply for a module repeat assessment in the case of initially failing a module. In such cases, the repeat assessment covers all learning outcomes associated with the failed module. In principle, re-sits and reassessments of insufficient grades can occur only once during one academic year. If a student subsequently fails a module after attempting a repeat assessment, it is then necessary for the student to re-enrol for repeat attendance on the module.

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

The universities state that the forms of examination used in the programme will be clearly defined in the examination regulations. In addition, each module coordinator has been asked to review the assessment method in their respective module and adapt it where necessary. The module descriptions will be updated accordingly.

The experts consider the measures planned by the universities to be appropriate. However, a corresponding requirement remains in place until these are implemented.

The experts conclude that this criterion is not fulfilled.

3. Resources

Criterion 3.1 Staff and Development

Evidence:

- Self-Assessment Report
- Cooperation Agreement
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:

The review team takes note that the joint Master's programme has been developed in accordance with a multi-beneficiary grant agreement with the European Health and Digital Executive Agency (HADEA) within the framework of the Digital Europe Programme.[5] From a consortium of altogether 17 stakeholders bringing together industry, technology, and education stakeholders, there were six universities from across Europe (see above sec. 1.3), who are actively participating in the programme. The combined expertise of these universities in the digital field and related (business) informatics areas is considered a promising basis for the implementation and delivery of the Master's programme. It is notable in this respect that the partner HEIs have concluded a "Cooperation Agreement" on the joint provision of the Master's programme, which also includes their mutual commitment to appoint "sufficient and appropriately qualified staff to deliver the various elements of the degree programme" (CA, Sec. 6.1, A.). The experts do not doubt the appropriate qualification of most of the teaching staff of the HEIs for the module/s delivered by each of them. Moreover, they experience highly motived young staff members from different partner HEIs during the site visit at Potsdam, who at the same time have indicated their deep involvement in field-related research work. Although the Master's programme has not

[5] Regulation (EU) 2021/694 of the European Parliament and of the Council of 29 April 2021, establishing the Digital Europe Programme, and repealing Decision (EU) 2015/2240, with respect to provision of funding for Project 101084013 – DIGITAL4Business.

started yet, students from affiliated degree programmes at NCI claim interest in the programme, not least due to their general contentment with the didactical and pedagogical competences of the involved teaching staff.

In that regard, the expert team especially acknowledges how the partner HEIs have taken care of the issue of further developing the related professional competences of the teaching staff. As the programme is delivered almost entirely in a digital mode through Direct E-Learning (DEL), it is obvious that the success of the teaching/learning process very much depends on related pedagogical versatility of the responsible lecturers. Hence, a reliable implementation of support and on-going professional development to staff members in the design, production and use of new technologies in teaching and learning – as promised by the partner HEIs – is of crucial importance. Hence, the experts welcome the establishment of a "Train the Trainer" programme supposed to provide training on the practical use of online tools, the Learning Management System (LMS), and pedagogical strategies for online delivery. As to that, it is considered a favourable condition for the partners that they can rely on the specific pedagogical expertise of the University of Bologna.

It is also positively noted that the partner HEIs are willing to monitor the suitability and readiness of the lecturers' professional and didactical qualifications on a regular basis as part of the internal quality assurance of the Master's programme. Complementary to this, the partners have stipulated that lecturers need to have adequate language skills and subject-specific expertise in order to qualify for the programme (see CA, sec. 6.1, B and C).

Criterion 3.2 Student Support and Student Services

Evidence:

- Self-Assessment Report
- Exam and Study Regulation
- Student Handbook
- Sample Student Survey Questionnaire
- Discussions during the on-site visit

Preliminary assessment and analysis of the experts:

The Master's programme under consideration addresses a wide range of students and study conditions and, consequently, needs to accommodate learners with heterogeneous educational as well as disciplinary backgrounds. Different study modes including full-time and different part-time types of delivery as well as the almost entirely online type of teaching and learning are obviously responding to this initial position. On the other hand, the range of flexible learning paths based on personae/qualification profiles opened up

through these learning conditions comes with new challenges not only with regard to the didactical approach discussed earlier in this report (see above sec. 1.6), but also concerning the support structure provided by the partner universities. The review team acknowledges that the partnering institutions carefully considered this issue in their plan to establish a number of different student services including, for instance, a "Learning and Disability Support Service", an "Assistive Technology Support Service", a "Student Councelling & Wellness Service", and a "Careers and Opportunities Support Service". In the eyes of the experts, especially the "Careers and Opportunities Support Service" is extremely important, as the programme is explicitly designed for re- and upskilling a workforce with a broader qualification background and professional experiences. Hence, it makes good sense to implement a job perspectives and career opportunities service in the support framework of this Master's programme.

Along with the overall portfolio of services scheduled to be provided to the students, the review team is convinced that the learners' needs for advice and support will be served adequately in the programme. In order to foster this proactive and supporting learning environment, the experts suggest additional efforts to incentivise and continually strengthen bonding activities of both learners and lecturers in the programme.

Otherwise, the experts observe that information about the different supporting services – similar to all student related information on the programme – is not yet available (or at least easily accessible) on the programme's website – as indicated in the self-assessment report. This needs to be changed in the course of the accreditation procedure. For the purpose of transparent information on the programme, all study-related information (curriculum and intended learning outcomes, admission requirements, study and examination rules, etc.) must be published and easily accessible for relevant stakeholders, such as students and teaching staff (see below, sec. 4.3).

Criterion 3.3 Funds and equipment

Evidence:

- Self-Assessment Report
- Cooperation Agreement
- Presentation of the virtual learning platform
- Discussion during the on-site visit

Preliminary assessment and analysis of the experts:

It is welcomed by the experts that the D4B consortium developed a sustainability strategy for the Master's programme. On a first glance, burden sharing in the course of delivering

the programme might facilitate its delivery. On the other hand, the engagement of a number of European universities, with different educational strategies, divergent scientific ecosystems, and heterogeneous cultural environments adds significant challenges to the joint operation of the programme. In this respect, it is well noted that major arrangements concerning the sharing of responsibilities, establishment of joint committees and their respective tasks and competences, Quality Assurance and its instruments as well as core programme-related issues have been bindingly settled in the Cooperation Agreement between the collaborating universities.

The experts notice that the Cooperation Agreement also entails cornerstones of a sustainable financial strategy to guarantee the viability of the programme even beyond the initial phase of its European backed funding until 2026. They see the need to further detail this strategy and take note that an operationalization of the concept is scheduled in the project framework. The concretized financial sustainability concept must be conveyed to the experts for the assessment in the course of the accreditation procedure. In this respect, however, it is welcomed that with the National College of Ireland (NCI), the higher education institution responsible for financial management is explicitly identified in the Cooperation Agreement (section 9.1 B).

Additionally, with its extensive experience in higher education, NCI appears to be an excellent choice for the coordinating role within the HEI consortium. This choice would likely ensure more reliable resourcing for the programme. Both centralized platforms implemented by the cooperating HEIs—the 'Customer Relationship Management (CRM) system' and the 'Learning Management System (LMS)'—promise to contribute to achieving the programme's learning objectives, as does the integrated Lab services solution. The experts, who considered the platform services during the onsite visit, view them as an adequate solution to foster the achievement of the intended programme learning outcomes.

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

The universities present the revenue side of a financial sustainability concept. The auditors notice, however, that the expense and cost side of the balance sheet are missing. Thus, the (more or less fixed) costs and expenses of the infrastructure and its continuous maintenance as well as the costs and expenses of teaching (depending on the number of students and adequate group sizes per course) must be taken into consideration, both overall and per university partner. The experts are not satisfied with the presented sustainability concept and ask the universities to present a concept that takes into account the effort (e.g. teaching by professors from participating universities) as well as the costs side (e.g. teaching assistants, professors during lecture-free periods). At the very least, the universities

must showcase how external lecturers who are to cover a significant part of the curriculum, as stated during the audit, are to be financed sustainably.

The experts conclude that this standard is partially fulfilled.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Module Descriptions

Preliminary assessment and analysis of the experts:
The experts observe that the module descriptions contain the necessary information about the module title, the teaching method(s) albeit being fairly generic in many cases, the credits and workload, the intended learning outcomes, the module content, admission and examination requirements, form(s) of assessment, details of how the module mark is calculated, and recommended literature.

As each of the partnering HEIs contribute to the Advanced Digital Skills Master programme with a number of (elective) modules, the reviewers appreciate that the module descriptions do also specify the names of those responsible for the modules. This is all the more important in case of a joint programme, where separate universities run the programme cross-nationally. With respect to the intrinsically supplementary character of the study programme, the element of complementing the learners' digital competence profile with reference to solving business problems, is largely missing out in the description of the indended learning outcomes as well as the module contents. The experts are of the opinion that this issue needs to be addressed in the curriculum design and/or, correspondingly, a revision of the module descriptions. If these business-related enhanced problem-solving competencies are not included in the curriculum, they must either be integrated into the existing modules or introduced as a specific module designed to meet this demand. (see above sec. 1.3).

Apart from this, the experts caution that module descriptions must be revised according to the indications given different sections of this report (e.g., sec. 1.6, 2).

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Diploma Certificate

- Diploma Supplement

Preliminary assessment and analysis of the experts:
The experts confirm that the students of the degree programmes under review are awarded a Diploma (Certificate) and a Diploma Supplement after graduation. The Diploma Supplement provides information on the student's qualification profile and individual performance as well as the classification of the degree programme.

The marks of individual modules are presented and the way in which the final mark is calculated is explained. In addition to the final mark, statistical data is included as set forth in the ECTS User's Guide to allow stakeholders to assess the individual mark.

However, as mentioned earlier in the section on programme learning outcomes (see above, sec. 1.1), experts believe that the qualification profile reflected in the Diploma Supplement must indicate more clearly how the programme enhances or broadens the digital skills of learners who are primarily advancing in their professional careers.

Criterion 4.3 Relevant Rules

Evidence:

- Relevant regulations on the course of study, admission, graduation, examinations, quality assurance, etc.
- Student handbook

Preliminary assessment and analysis of the experts:
The experts confirm that the rights and duties of the involved partner HEIs and the students as well as the rules concerning the admission, commencement, progression and completion of the Master's degree programme are clearly defined and binding in the relevant regulations. The HEIs claim that students receive all relevant course materials in the language of instruction (English) at the end of each semester. In addition, the partners have created a "D4B Student Handbook" containing core study-related information and thus providing a meaningful information source for students.

At the time of the audit, however, none of the relevant regulations, information sources nor even the highly important Cooperation Agreement between the partnering HEIs provided was published on the D4B or the Master's degree website. This remains to be done and subsequently evidenced in the course of the accreditation procedure.

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

Regarding criterion 4.1 – Module Descriptions

The universities declare that all module descriptions will be revised according to the notes in this report. As this in not done yet, a requirement remains.

Regarding criterion 4.2 – Diploma Supplement

The universities state that the qualification profile of the diploma supplement will be revised so that it indicates how the programme enhances and broadens the digital skills of the learners. As this in not done yet, a requirement remains.

Regarding criterion 4.3 – Relevant Regulations

The universities declare that all official programme-related documents will be published on the D4B website (www.digital4business.eu) as soon as possible, to ensure that they are easily accessible to all stakeholders. In additions, the module descriptions will be revised according to the notes in this report and the qualification profile of the diploma supplement will be revised so that it indicates how the programme enhances and broadens the digital skills of the learners.

The experts conclude that this standard is not fulfilled.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Internal Quality Handbook
- Sample Student Survey Questionnaire
- Self-Assessment Report
- Discussion during the on-site visit

Preliminary assessment and analysis of the experts:
As already mentioned, the roles of the various HEIs involved in the project and their responsibilities are set out in a binding cooperation agreement.

According to this, each partner institution appoints at least one academic *Programme Director*. The Programme Director shall liaise with his or her counterparts in the other partner institutions on all matters concerning the degree programme and shall ensure that the degree programme at his or her partner institutions is consistent with the joint agreements

concerning the degree programme. Together, these Programme Directors build the *Programme Board of Directors* (*Master's Board*), which is responsible for the general management, academic supervision, quality assurance, degree awarding and recognition issues, agreement changes, dispute resolution and student complaints. Additionally, the Master's Board is considered responsible for the system review, advice on policy developments for the joint degree programme, and to ensure the coherence and consistency of the concept of the programme. The Master's Board shall meet at least twice a year.

The Cooperation Agreement further specifies that one *Programme Coordinator* of each partner HEI will assist the Programme Director and carry out day-to-day administrative and technical tasks concerning the students, quality assurance, mobility in the degree programme and general matters related to programme delivery at the partner institution. He or she shall liaise with the other Partner HEIs' Programme Coordinators and Programme Directors, students in the degree programme, and with external partners.

In addition, there are also other joint governing bodies such as the Joint Admission Board, the Examination Board, the Joint Programme Committee, and – with regard to Quality Assurance – especially the Quality Enhancement and Curriculum Development Committee.

A Quality Handbook details the above mentioned boards and institutions and entails quality assurance processes concerning academic performance analysis, student module level satisfaction surveys, class representative meetings, suggestions and complaints as well as quality enhancement planning.

Accordingly, for each programme instance, midway through each academic semester, the D4B Master Secretariat shall distribute Online Student Survey Questionnaires to student cohorts to receive feedback for each of their enrolled modules. Students will have one week to complete the questionnaires. Over the course of the next two weeks, the Master Secretariat is expected to process the surveys, and individual lecturers shall then receive module level feedback following the collection of results of the surveys. The Master Secretariat is also required to compile all results, to determine average satisfaction rates, and to provide a summary report to the Project Coordinator, the QECD Committee, and the Joint Programme Committee. Following this, the Joint Programme Committee and the Project Coordinator are supposed to analyse the summary results, identify possible problems, and send a report for improvement proposals to the Master's Board of Directors within two weeks of receiving the initial summary data. Lecturers should consider the feedback received for the modules that they teach, and identify potential areas where modifications may be required to enhance delivery.

In addition to this combination of institutional and procedural elements and instruments of internal QA of the considered Master's programme, it becomes obvious from the Cooperation Agreement and the statements of the HEIs during the onsite discussions that the issue of QA of the programme is given high priority. The challenge of establishing QA processes and instruments specifically tailored towards the needs of cross-national degree programmes is, in the eyes of the reviewers, clearly seen, and – at least on a conceptual level – properly addressed. The interconnection between internal and external QA is also reflected and made use of in the ordinary quality enhancement processes of the Master's programme.

The experts appreciate that QA is not only given consideration in the Cooperation Agreement between the partner HEIs but also in the Quality Assurance Handbook that has been produced already. The QA manual attests to the important role the partner HEIs ascribe to appropriate QA processes and instruments for the success and further development of the Master's programme. What is missing out from the description of the planned QA processes in the QA Handbook, however, is a consistent closing of feedback loops by communicating follow up measures to the learners. The issue might be inherently implemented, although it is not formulated explicitly. The reviewers nevertheless consider this a decisive element for the prospect of a QA system that, in turn, might be negatively affected by deficient feedback mechanisms. With respect to their generally favourable assessment of the presented QA scheme for the joint Master's programme, the experts are giving the HEIs the benefit of the doubt regarding the aforementioned feedback issue. They nevertheless highly recommend to making the feature of communicating back to the students more prominent in the QA framework and related formulations (specifically, in but not limited to the QA manual).

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

The universities plan to revise the QM-manual to clearly mention and describe the allocation of credit points and the monitoring of student workload. It will also be clearly stated that the workload monitoring takes places at both the module and programme levels.

The experts consider the measures planned by the universities to be appropriate.

The experts conclude that this standard is fulfilled.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (18.08.2024)

The institution provided a detailed statement as well as the following additional documents:

- Sustainability Strategy

F Summary: Expert recommendations (28.08.2024)

Taking into account the additional information and the comments given by D4B, the experts summarize their analysis and **final assessment** as follows:

Requirements

A 1. (ASIIN 1.4) Specify the technical and scientific prerequisites of the programme and the individual modules in order to contribute to and to facilitate the enrolment of suitable applicants to the programme.

A 2. (ASIIN 1.5) Detail and ensure a systematic and regular monitoring of the credit point allocation in order to identify and, if necessary, adapt the credit point allocation or the contents of the modules.

A 3. (ASIIN 2) Specify the exam forms and grading scheme in the study and exam regulation.

A 4. (ASIIN 3.3) Provide the concretized financial sustainability concept and the means for its implementation.

A 5. (ASIIN 4.1) Clearly indicate the reference to solving business problems, including relevant methodologies, in the description of learning outcomes and contents of the modules (either as dedicated module or in the subject-specific modules).

A 6. (ASIIN 4.1) Revise and, if necessary, adapt the module descriptions according to the annotations in the report (e.g. learning outcomes, teaching/learning formats, and examination forms).

A 7. (ASIIN 4.2) The Diploma Supplement needs to be more specific in describing the individual qualification profile of the graduate.

A 8. (ASIIN 4.3) Revise all relevant documents (study plans, module descriptions, cooperation agreement, diploma, diploma supplement, etc.) so that only the active project partners and module owners are named.

A 9. (ASIIN 4.3) Make all study-related information material and regulations available for the relevant stakeholders.

Recommendations

E 1. (ASIIN 1.1) It is recommended to make the profession-oriented purpose of the programme more transparent.

E 2. (ASIIN 3.2) It is recommended to incentivise and continually strengthen bonding activities of both students and lecturers.

E 3. (ASIIN 1.1, 1.3) It is recommended to enlarge core transferal skills within the programme, such as problem-solving skills, communication, collaboration, and team competences, service orientation.

E 4. (ASIIN 5) It is recommended that the closing of the feedback loop be increasingly taken into account in the QA framework and the corresponding documents (e.g. QM-Manual).

G Comment of the Technical Committee 07 – Business Informatics / Information Systems (13.09.2024)

Assessment and analysis

The Technical Committee discusses the procedure and agrees with the assessment of the auditors.

The Technical Committee recommends an accreditation for one year under 9 requirements and 4 recommendations.

H Decision of the Accreditation Commission (24.09.2024)

Assessment and analysis:

The Accreditation Commission discusses the procedure and agrees with the assessment of the auditors and the Technical Committee.

They come to the following decision:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Professional Master's in Advanced Digital Technologies for Business	With requirements for one year	30.09.2030	–	--

Requirements

A 1. (ASIIN 1.4) Specify the technical and scientific prerequisites of the programme and the individual modules in order to contribute to and to facilitate the enrolment of suitable applicants to the programme.

A 2. (ASIIN 1.5) Detail and ensure a systematic and regular monitoring of the credit point allocation in order to identify and, if necessary, adapt the credit point allocation or the contents of the modules.

A 3. (ASIIN 2) Specify the exam forms and grading scheme in the study and exam regulation.

A 4. (ASIIN 3.3) Provide the concretized financial sustainability concept and the means for its implementation.

A 5. (ASIIN 4.1) Clearly indicate the reference to solving business problems, including relevant methodologies, in the description of learning outcomes and contents of the modules (either as dedicated module or in the subject-specific modules).

A 6. (ASIIN 4.1) Revise and, if necessary, adapt the module descriptions according to the annotations in the report (e.g. learning outcomes, teaching/learning formats, and examination forms).

A 7. (ASIIN 4.2) The Diploma Supplement needs to be more specific in describing the individual qualification profile of the graduate.

A 8. (ASIIN 4.3) Revise all relevant documents (study plans, module descriptions, cooperation agreement, diploma, diploma supplement, etc.) so that only the active project partners and module owners are named.

A 9. (ASIIN 4.3) Make all study-related information material and regulations available for the relevant stakeholders.

Recommendations

E 1. (ASIIN 1.1) It is recommended to make the profession-oriented purpose of the programme more transparent.

E 2. (ASIIN 3.2) It is recommended to incentivise and continually strengthen bonding activities of both students and lecturers.

E 3. (ASIIN 1.1, 1.3) It is recommended to enlarge core transferal skills within the programme, such as problem-solving skills, communication, collaboration, and team competences, service orientation.

E 4. (ASIIN 5) It is recommended that the closing of the feedback loop be increasingly taken into account in the QA framework and the corresponding documents (e.g. QM-Manual).

Appendix 1: Objective-Module Matrix

	Critically appraise, select, and employ existing and emerging technologies to address complex business problems and support innovation & digital transformation in business	*Critically assess and evaluate sustainability, governance and ethical risks and impacts associated with digital transformation.*	*Synthesise and communicate the opportunities, risks and critical challenges of digital transformation practices to underpin strategic decisions to key stakeholders.*	*Demonstrate an in depth understanding of the fundamental concepts and techniques of advanced digital skills from a business perspective.*	*Cultivate, select, and employ transversal advanced digital skills and practices, evaluating their application in various contexts.*	*Explore, strategically leverage, and implement advanced digital skills and practices to foster creativity at an individual, team, and organizational levels.*
Digital Transformation	x	x	x		x	
AI for Business	x	x	x			x
Data Science for Business	x			x	x	x
Cybersecurity for Business		x	x	x	x	
Cloud Computing for Business	x	x	x		x	
Business Programming	x			x		x
IoT	x	x		x		x
Blockchain Technologies	x	x	x		x	
Quantum Computing	x		x		x	
Governance & Ethics		x	x		x	x
Innovation	x			x	x	x
Generative AI	x	x	x		x	x
Risk & Change Management		x	x	x	x	x
Capstone Project	x	x	x	x	x	x

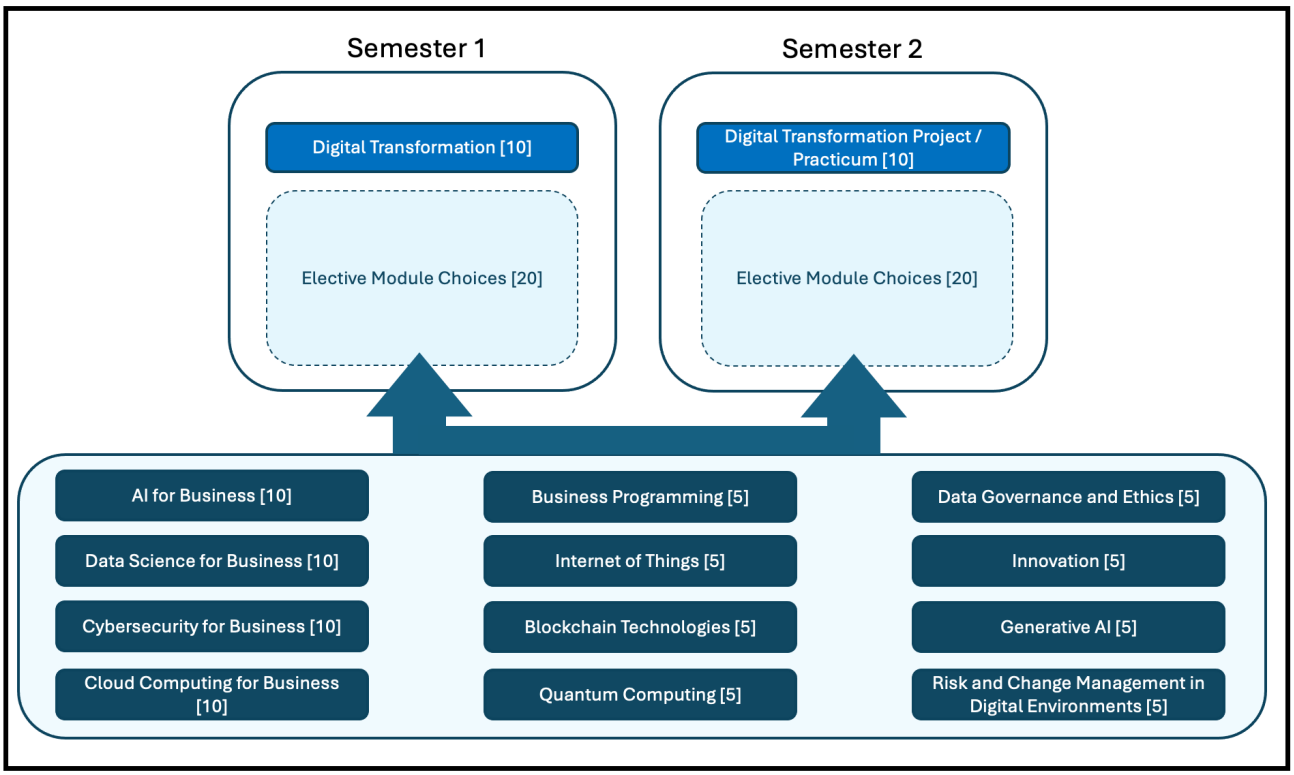
Appendix 2: Role Profile of Potential Students

			Modules												
			Digital Transformation [10]	AI for Business [10]	Data Science for Business [10]	Cybersecurity for Business [10]	Cloud Computing for Business [10]	Programming for Productivity [5]	Internet of Things [5]	Blockchain Technologies [5]	Quantum Computing [5]	Data Governance and Ethics [5]	Innovation [5]	Generative AI [5]	Risk and Change Management in Digital Environments [5]	Digital Transformation Practicum [10]
Role Profiles	1	Procurement Manager	M	E	E	E	E					E			E	M
	2	Small Business Owner	M	E	E	E	E					E			E	M
	3	HR Professional	M	E	E	E	E					E	E	E		M
	4	Business Operations Manager	M	E	E	E	E					E	E			M
	5	Sales Person	M	E	E		E	E				E	E		E	M
	6	Junior Software Engineer	M	E	E	E	E	E			E		E	E		M
	7	Legal Professional	M	E	E	E	E			E		E		E		M
	8	Facilities Management Professional	M	E	E	E	E		E				E			M
	9	Supply Chain Management Professional	M	E	E	E	E			E		E			E	M
	10	Engineering Professional in SME	M	E	E	E	E	E	E		E			E		M
	11	Office Administrator in SME	M	E	E	E	E	E							E	M
	12	Finance Professional	M	E	E	E	E			E		E			E	M
	13	Product Manager	M	E	E	E	E					E	E			M
	14	Marketing Professional	M	E	E	E	E					E	E	E		M
	15	Project Manager	M	E	E	E	E					E			E	M
	16	Customer Services Professional	M	E	E	E	E					E		E	E	M

M - Mandatory Module
E - Elective Module

Appendix 3: Curricula / Exemplary Study Plans

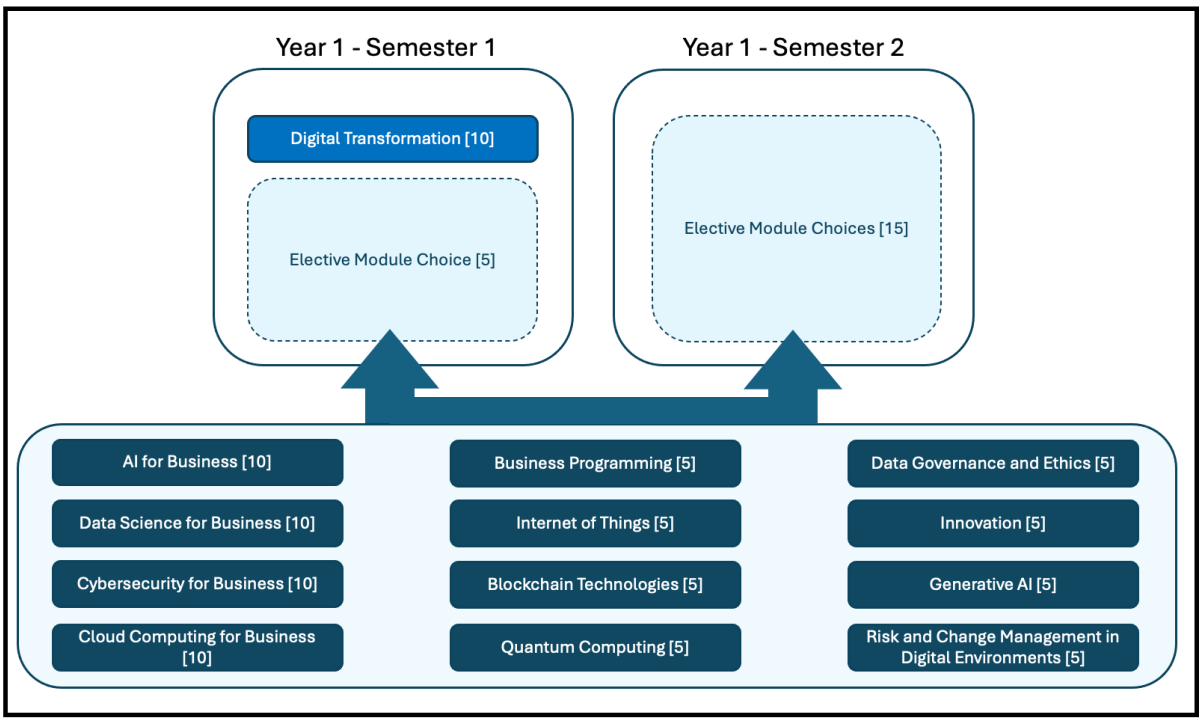
Exemplary Study Plan: Full-time



Note: In each semester, a learner chooses elective modules for 20 ECTS.

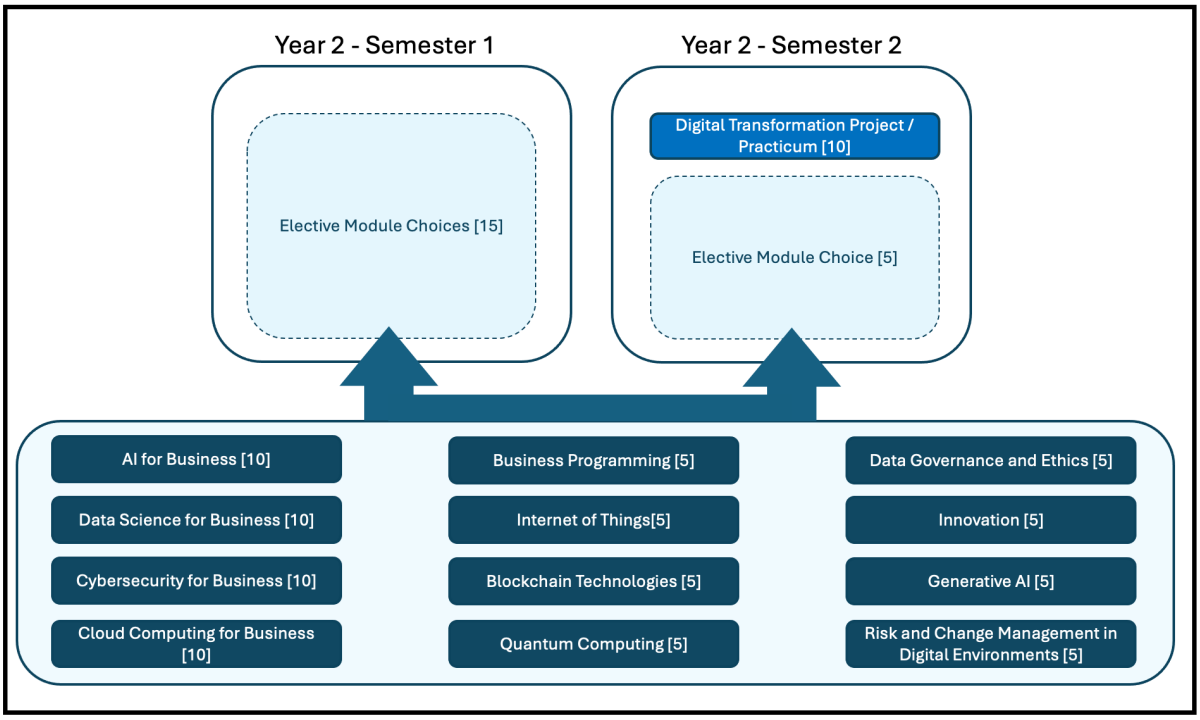
Legend Mandatory Module [ECTS Credits] Elective Module [ECTS Credits]

Exemplary Study Plan: Part-time



Note: In the first semester, a learner chooses an elective module for 5 ECTS. In the second semester, a learner chooses elective modules for 15 ECTS.

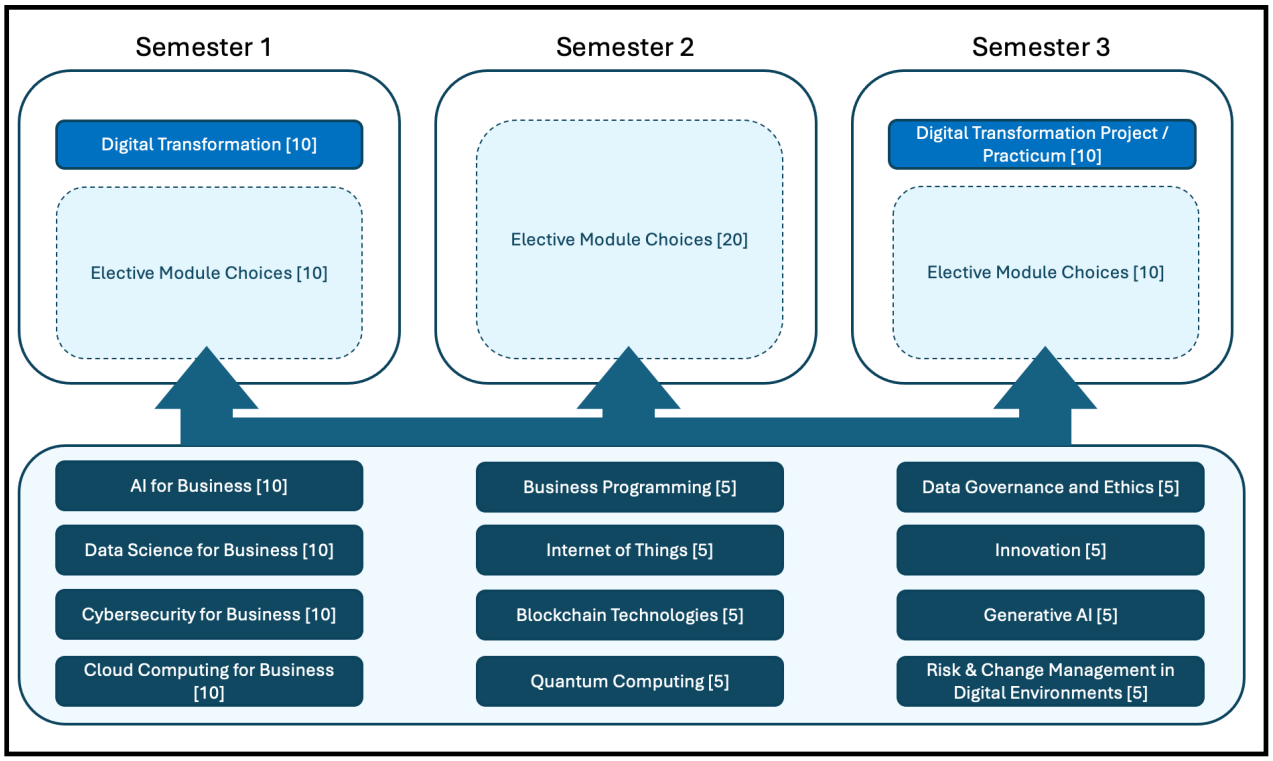
Legend Mandatory Module [ECTS Credits] Elective Module [ECTS Credits]



Note: In the first semester, a learner chooses elective modules for 15 ECTS. In the second semester, a learner chooses an elective module for 5 ECTS.

Legend Mandatory Module [ECTS Credits] Elective Module [ECTS Credits]

Exemplary Study Plan: Part-time accelerated



Note: In the first and third semester, a learner chooses elective modules for 10 ECTS. In the second semester, a learner chooses elective modules for 20 ECTS.

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