

# Independent Panel Report on a Programme Review

<b>Provider</b>	Dublin Business School
<b>Programme(s) Reviewed</b>	Master of Science in Artificial Intelligence Postgraduate Diploma in Science in Artificial Intelligence
<b>Date of Panel Event</b>	28 <sup>th</sup> January 2025

## Independent Panel Members

<b>Name</b>	<b>Role on Panel</b>	<b>Affiliation</b>
Dr Sinéad O’Sullivan	Chair	Director of Quality, UL
Dr Haithem Afli	Subject Matter Expert	Computer Science lecturer, MTU
Professor Mark Lee	Subject Matter Expert [International]	Professor of Artificial Intelligence at University of Birmingham
Ontiretse Ishmael	Learner Representative	NStEP trained in Quality Assurance
Dr Claudia Igrude	Industry Representative	Enterprise Learning Technology leader, PayPal; PhD in Computer Science
Sam Whelan	Secretary	Programme Development – Project Manager, Griffith College

All members of the independent panel declared their independence of Dublin Business School and that they have no conflict of interest.

## Part 1. Introduction

The scope of the review encompassed the Master of Science in Artificial Intelligence (90 ECTS) and its embedded Postgraduate Diploma in Science in Artificial Intelligence (60 ECTS, Exit Award) delivered by Dublin Business School. The programmes are at level 9 on the National Framework of Qualifications (NFQ). The programmes are delivered on both a part-time and full-time basis. This review is presented to Quality and Qualifications Ireland (QQI) by an independent evaluation panel as part of the College’s proposal for the re-validation of the programmes for a further five-year period, commencing in September 2025.

## Part 2. Evaluation Process

### 2.1 Documents Supplied to the Panel

	Document Type	Document Name
1.	Core Documents	1. Programme Review Report_MSc in Artificial Intelligence
		2. Programme Document_MSc in Artificial Intelligence
		3. Module and Assessment Document_MSc in Artificial Intelligence
		4. DBS Programme Handbook_MSc in Artificial Intelligence
		5. Programme Team CVs_MSc in Artificial Intelligence
		6. Terms of Reference_MSc in Artificial Intelligence
		7. Meeting Agenda
2.	Regulatory Documents	8. PEL Refund Arrangements_MSc in Artificial Intelligence
		9. Fee Cover Note_MSc in Artificial Intelligence 2025
		10. DBS_Deed of Guarantee
		11. DBS Cover Letter Declaration_MSc in AI
3.	Supporting Documents	<ul style="list-style-type: none"> <li>• SESU Revalidation Data_2024</li> <li>• QQI Criteria and Handbook</li> <li>• Programme Reports</li> <li>• Programme Documents 2020</li> <li>• Learner, Alumni, and Industry Feedback</li> <li>• Independent Evaluation Report</li> <li>• External Examiner Reports</li> <li>• Exam Papers-CA Samples</li> <li>• Certificate of Validation</li> <li>• Board of Studies</li> <li>• SLATE 2</li> <li>• RIPE23 – Research, Innovation, Practice, Enterprise</li> <li>• DBS Postgraduate Business Guidebook</li> <li>• DBS Postgraduate Applied Research Project Guidebook</li> </ul>

## 2.2 Provider's Representatives Met

	Person	Role / Job Title
1.	Dr Lori Johnston	Academic Dean
2.	Dr David Williams	Academic Director
3.	Dr Paul McEvoy	Assistant Academic Dean
4.	Tim Bicknell	President, DBS
5.	Terri Hoare	Programme Level Manager, Lecturer
6.	Nicholas Kelly	Faculty Manager
7.	Niamh Ní Chadhla	Faculty Manager
8.	Shane Mooney	Head of Student Experience
9.	Darragh Breathnach	Registrar and Director of Campus Operations
10.	Anita Dwyer	Assistant Registrar
11.	Amy Hayes	Programmes Manager, DBS note-taker
12.	Sachin Sahebrao Moze	Learner
13.	Rediet Demisse Dejene	Learner
14.	Akhilesh Mehendra Gupta	Learner
15.	Tanya Balfe	Admissions Manager
16.	Francisca Knight	Head of Academic Operations
17.	Sarah Sharkey	Student Engagement Officer
18.	Anesu Nyabadza	Lecturer
19.	Kunwar Madan	Lecturer
20.	Nitya Govindaraju	Lecturer
21.	Paul Laird	Lecturer
22.	Dr Andrew Browne	Lecturer
23.	Dr Shahram Azizi Sazi	Lecturer

## 2.3 Description of evaluation process

The review process for these programmes was managed by the Academic Director, Assistant Academic Director and Programme Level Manager in collaboration with the lecturing team.

The main process involved in the Programme Review was to identify areas of the programme requiring development, modification or where needs that did not previously exist have emerged. This was achieved by undertaking a wide-ranging consultation and research exercise that included, but was not limited to:

- Obtaining feedback from students, graduates, lecturers and industry representatives
- Reviewing developments from industry since the previous validation event in 2020.
- Examining employment opportunities in existing and emerging sectors
- Assessing the preparedness of the graduates for work

The review process findings and implications for the next iteration of the MSc in Artificial Intelligence programme were documented, finalised and circulated to the panel on 14<sup>th</sup> January 2025. A review meeting was conducted virtually using Zoom on 28<sup>th</sup> January, during which the panel met with representatives of Dublin Business School, including the programme team, senior management, learners and support staff. The panel had prepared questions / themes to discuss with the DBS programme team and a summary of these findings, commendations and recommendations are set out in this document.

## **Part 3. Panel Findings on Provider Programme Review Report**

The following is the panel's commentary and recommendations on the provider's programme review report. It follows the section structure of the report in headings and in sequence. References to specific parts of the provider report will use the relevant report reference e.g. 2.2.4 Programme Management

### **3.1 Context and Terms of Reference for the Programme Review**

#### **3.1.1 Commentary**

The objectives and approach to programme review are clearly outlined, with a need to conform to QQI policies published since the last validation. Details of the proposed programme changes and the rationale for same was provided. Five Special Considerations were identified by DBS, in consultation with QQI, and included in the terms of reference. These special considerations related to:

- 1) Demonstrating DBS' compliance to the updated Code of Practice for Provision of Programmes of Education and Training to International Learners (2023)
- 2) Revising delivery modes for full-time and part-time cohorts
- 3) Making the embedded Postgraduate Diploma an exit-only award
- 4) Incorporating blended / multimodal learning where appropriate
- 5) Resourcing capacity of capstone supervision for the proposed maximum intake numbers.

The panel was satisfied with the level of detail in the Terms of Reference with all flagged changes apparent in both the Programme Review Report and revised Programme Descriptor.

#### **3.1.2 Recommendations**

##### **Recommendation 1**

The panel recommends that the programme team keep a watching brief on recruitment numbers in terms of their capacity to supervise dissertations and manage assessments should their intake numbers rise in line with new proposed maximum intake numbers.

## 3.2 Dublin Business School Information and Programme Context

### 3.2.1 Commentary

DBS provided detailed information on the institution's near 50-year history, scale and its management and governance structures. From a programme context, the MSc in Artificial Intelligence programme is one of a suite of programmes delivered by the Computing faculty, which has a robust structure comprising the following key roles:

- Academic Director
- Assistant Academic Director
- Programme Level Manager
- Module Leaders
- Faculty Managers
- Programme Coordinators

The programme aims, objectives and target learners are clear with its practical focus adhering to DBS' overarching values, especially but not limited to its Create Opportunity and Grow Opportunity values. It is clear that DBS has a future focus with a robust QA structure and team of experts to deliver the programme.

### 3.2.2. Recommendations

Though DBS documented a clear and robust governance and management structure, the panel has one recommendation in relation to clarifying communication lines for learners. In this respect:

#### **Recommendation 2**

The panel recommends that learners are provided with greater clarity on:

- the programme's communication structures to ensure they are informed on who they should go to with programme-related (or non-academic) queries
- who owns / is responsible for the academic direction of the programme
- communications relating to the scheduling of formative feedback check-ins for assessments (as part of the new enhanced feedback strategy).

## 3.3 Baseline qualitative and quantitative information - Programme Data Overview

### 3.3.1 Commentary

The data provided indicated strong growth in applications since the programme launched with conversion rates relatively stable at 8% on average across the review period – 2020/21 to 2023/24. The gender imbalance is in line with other discipline-specific data nationally and internationally with the faculty exploring initiatives to address the underrepresentation of women. The programme team are aware of a high concentration of Asian learners (between 76% and 89%) on each enrolled cohort and DBS is keen to address the concentration issue with a greater focus on recruiting EU / US learners in the future.

Overall, while there were some inconsistencies in data capturing due to an upgrade in DBS' data collection system, the qualitative and quantitative information presented did indicate that the programme is delivering a quality educational experience for learners with high pass rates (89%)

across the review period. Post-programme completion, the graduate destination data indicated that the programme does succeed in delivering work-ready graduates who are able to secure employment post-graduation. The HEA Graduate Outcomes Survey data presented (12 respondents each from 2023 and 2024) indicates relatively high employment rates at 75% and 83% respectively. It is hoped that the newly established Alumni Network in DBS will further help to strengthen the employment opportunities for learners.

### 3.3.2 Recommendations

During discussions with senior management, the panel was advised that DBS is currently reviewing their annual monitoring processes for all programmes. As part of this review:

#### **Recommendation 3**

The panel recommends that DBS should use the revised annual monitoring mechanisms to enhance programme reporting with a specific emphasis on academic integrity data.

## 3.4 Programme Delivery and Teaching & Learning Strategies

### 3.4.1 Commentary

The panel was partially satisfied that the programme team provided a thorough analysis of the delivery and the teaching, learning, and assessment (TLA) strategies. The team effectively incorporated learner feedback, leading to curriculum updates that enhance the overall learning experience. The revised programme offers a flexible and dynamic approach, with a renewed emphasis on practical, real-world assessments. These changes align with the principles of DBS' new Strategy for Learning, Assessment, and Teaching Enhancement (SLATE2).

Regarding resourcing, learners informed the panel that accessing high-powered computers for lab work remains a challenge, impacting assessment tasks and leading to additional costs for students. With respect to the TLA strategy, the panel engaged in an in-depth discussion about the programme team's decision to eliminate all proctored examinations. This decision was primarily driven by two factors:

1. The need to alleviate workload pressures during exam periods.
2. A broader strategic shift towards continuous assessment and portfolio-based evaluation across the Computing faculty at DBS.

The data presented in the Programme Review Report did not indicate strong enough dissatisfaction from learners or external examiners to warrant the changes in assessment. By adopting a 100% Continuous Assessment strategy, the programme runs the risk of encountering more academic integrity issues. The panel is aware of the rationale for more real-world practical assessment but feel strongly that the assessment strategy should be revisited.

The panel was concerned that the full implications of the decision had not been fully teased out with respect to the scheduling of assessment, where all assessment was proposed to be due in week 12 rather than using the full 15 week semester in the absence of terminal proctored examinations or how external examining would be managed for high stakes assessment scheduled for early in the semester. The panel suggests that a more gradual reduction in proctored exams—rather than their complete removal—might be a more balanced approach for the revised programme.

In terms of other curriculum modifications, the removal of the *Cognitive and Ethical Dimensions of AI* module allows for the earlier introduction of the *Research Methods* module in the learner journey, which also complements the introduction of a more traditional Dissertation elective as the capstone. The ethics content from the removed module will be redistributed across the programme.

### 3.4.2 Conditions and Recommendations

Based on the analysis of data provided in the programme review report, the panel has two conditions of validation based on the proposed changes to the delivery and teaching and learning strategies of the MSc in Artificial Intelligence programme.

#### **Condition 1**

Provide resourcing solutions to ensure learners have access to the computational power required to complete course work.

#### **Condition 2**

Revisit the decision to remove all proctored examinations bearing in mind the impact on external examining and academic integrity. The panel requests clarification on and consideration of

- existing proctored practical assessment in modules
- how it may be used in other modules.
- how external examining procedures will be implemented for high stakes continuous assessment occurring early in the semester

## Part 4. Evaluation of the programme by stakeholders

### 4.1 Evaluation by current learners and graduates of the programme

#### 4.1.1 Commentary

The panel is satisfied that feedback from learners and graduates was considered in the review of programme through learner surveys. Though the number of learners surveyed was relatively low, as indicated in the Programme Review Report, the programme team have indicated a commitment to enhance the programme based on learner feedback in the following areas:

- Additional programming and machine learning support for learners without prior experience.
- Updating the curriculum to reflect the AI industry advancements and trends.
- Including more hand-on activities and opportunities for more personalised feedback.

The programme team were also keen to reassure the panel that less formal feedback mechanisms through face-to-face communications with learners as well as module surveys helped to close the loop on feedback.

#### 4.1.2 Recommendations

Not applicable in this case.

### 4.2 Evaluation of the programme by Staff

#### 4.2.1 Commentary

The panel is satisfied that the review process evidenced a strong, collaborative engagement by staff and the programme team throughout the duration of the programme and cyclical review process itself. From their experience of delivering the programme, several key changes were proposed:

- Retire the Cognitive and Ethical Implications of AI module
- Introduce Research Methods in Semester 1 to help learners formulate research questions at an earlier stage of their learning journey
- Introduce a traditional Dissertation route as well as the existing Applied Project route.
- Transition from traditional exams to a portfolio-based assessment system.

The panel recognised that the proposed strengthening of annual programme reporting as well as the additional academic management supports (Assistant Academic Director) for the programme will further enhance the monitoring and stakeholder engagement with the programme.

The rationale for the removal of the Cognitive and Ethical Dimensions of AI module however, led to some concerns from a panel perspective. Though the programme team insisted that ethics (encapsulating regulation, legal matters, trustworthiness etc.) was now embedded across the programme, the panel did not see evidence of this in the documentation provided. Indeed, from an industry perspective, ethics or more broadly 'Responsible AI' is a core consideration and value in all aspects of AI-related roles. With that in mind, the panel had the following Condition of Validation:

## 4.2.2 Conditions and Recommendations

Explicitly articulate the inclusion of 'Responsible AI' across the module learning outcomes

## 4.3 External Stakeholder Feedback

### 4.3.1 Commentary

The programme's review was informed by a Computing Industry Board comprising about 30 members from across DBS' suite of Computing programmes. The breadth of AI expertise on the board was not clear though the programme team did emphasise the level of industry-informed concepts and case studies adopted across the programme. External stakeholders commended how the programme established a strong foundation in core AI principles while also exposing learners to a variety of specialised areas.

External stakeholders recommended a greater emphasis on business skills for technology leading to more commercially focused skills training in agile methodologies, task estimation and cloud computing.

### 4.3.2 Recommendations

The breadth of industry engagement was not clear from the data provided and resulted in the following panel recommendation:

#### **Recommendation 4**

The panel recommends strengthening engagement with industry stakeholders to ensure the programme remains dynamic and aligned with industry needs. This includes establishing more formal programme specific industry input for future programme development and enhancing industry exposure for learners through initiatives such as guest lectures.

## 4.4 External Examiner Feedback

### 4.4.1 Commentary

The programme review report evidences engagement with external examiners especially in terms of assessment feedback during the period under review. The externs consistently commended the use of authentic and appropriate assessments. Over the course of the review period, several minor issues were flagged around clarity and consistency with the exam papers as well as opportunities for the team to enhance feedback on assessments, particularly the final research project.

The panel noted that the programme team did not consult the external examiner on the proposed assessment revisions as part of the programme review process.

### 4.4.2 Recommendations

Not applicable in this case.

## **Part 5. Programme Quality Assurance**

### **5.1 Complaints, appeals and commendations**

#### **5.1.1 Commentary**

The panel are satisfied that the formal and informal mechanisms are in place to intervene where issues arise. Throughout the panel event, the programme team clearly demonstrated a commitment to open and transparent communication with their learners, and to solve any programme-related issues at the earliest opportunity.

#### **5.1.2 Recommendations**

Not applicable in this case.

### **5.2 Quality Assurance Systems and Processes**

#### **5.2.1 Commentary**

The panel are satisfied that the quality assurance systems and processes are in place for these programmes and that all programme staff are kept abreast of changes to policy and procedures as they arise. In terms of programme governance, the additional roles of Assistant Academic Director and Programme Level Manager will lead to even greater emphasis on QA processes and monitoring.

As noted above, the panel has been assured that the annual programme monitoring process is being revised and strengthened. The panel has also noted above (3.4.1) that the current procedures for the external examining of assessment as proposed may not be sufficient to support the integrity of the programme, therefore in complying with condition 3.4 2(2), the panel requires that the programme team considers whether current procedures can support effective external examining.

#### **5.2.2 Conditions and Recommendations**

See condition 3.4.2 (2) and recommendation 3.3.2.

### **5.3 Additional Quality Assurance Systems and Processes required (e.g. online delivery / assessment)**

#### **5.3.1 Commentary**

No further supplementary QA procedures are required for this programme. The programme review team have satisfactorily acknowledged all requisite systems and processes.

#### **5.3.2 Recommendations**

Not applicable in this case.

## Part 6. Summary Analysis of the programme

### 6.1 Commentary

The programme team completed a detailed SWOT analysis of the programme, which helped to inform their thorough and inclusive programme review process. With growing application numbers and the advancements in AI since the programme's inception, it is clear that there is a continued demand for the programme. The strong graduate employment data demonstrates that the programme succeeds in producing work-ready learners – a key strategic pillar for DBS.

The panel is satisfied that the SWOT analysis was well considered especially in terms of the threats flagged in respect of rapid technological advancements and ever-evolving industry needs. The opportunities presented were also realistic in respect of the demand for AI skills, the prospects for attracting more female participation and also the importance of strengthening the programme management for future cohorts.

While it was not entirely clear that the existing assessment strategy is a weakness, the programme team is keen to bring the programme in line with other Computing programmes in DBS, ensuring a more practical skills development focus. The programme curriculum is a core strength of the programme, which was fully endorsed by the learners during the panel event.

### 6.2 Recommendations

Based on the findings of the SWOT analysis, the panel has one commendation, one condition of validation and two recommendations:

The commendation below reflects the strong curriculum highlighted as a strength in the SWOT analysis:

#### **Commendation**

The panel commends the module content and the programme as a whole.

The condition below is in response to the perceived weakness of the assessment strategy highlighted in the SWOT analysis:

#### **Condition (as noted in Section 3.4.2 above)**

Revisit the decision to remove all proctored examinations bearing mind the impact on external examining and academic integrity. The panel requests additional clarity on where there is existing proctored practical assessment in modules and to consider how it may be used in other modules.

The recommendations below are in response to the industry alignment (as a highlighted strength) and the strengthened programme management (highlighted as an opportunity) in the SWOT analysis:

#### **Recommendation (as noted in Section 3.2.2)**

Provide learners with greater clarity on:

- the programme's communication structures to ensure they are informed on who they should go to with programme-related (or non-academic) queries

- who owns / is responsible for the academic direction of the programme
- communications relating to the scheduling of formative feedback check-ins for assessments (as part of the new enhanced feedback strategy)

**Recommendation (as noted in Section 4.3.2)**

The panel recommends strengthening engagement with industry stakeholders to ensure the programme remains dynamic and aligned with industry needs. This includes establishing more formal industry input in future programme development and enhancing industry exposure for learners through initiatives such as guest lectures.

## **Part 7. Revision of the programme**

### **7.1 Commentary:**

The panel is satisfied that the programme revisions largely reflect the implications drawn from the data analysis and stakeholder feedback contained in Sections 3 and 4. As noted elsewhere, there has been limited engagement with external stakeholder such as external examiners and programme specific industry representatives

### **7.2 Recommendations:**

Overall, the panel has two commendations, four conditions of validation and eight recommendations following the independent evaluation. Many of these have been included in the sections above. However, all of the commendations, conditions and recommendations are outlined under the relevant criteria in the Independent Evaluation Report.

## **Part 8. Overall Findings**

In this section the panel will give its overall feedback on the conduct of the review and the findings therein. This feedback will inform future provider review processes and will also contribute to the refinement of any programmes being proposed for revalidation following this review process.

### **8.1 Commentary on review process**

Overall, the panel is satisfied that the review undertaken was comprehensive and thorough, with extensive consultation with staff, learners, graduates and external examiners. The DBS team provided a comprehensive suite of documentation with respect to the programme review process and the specific programme under review. The approach aligns with best practices in programmatic review, with clear evidence of critical self-evaluation. The panel suggests that greater external stakeholder engagement e.g. with external examiners and industry partners specific to the programme would enhance the process. The review process effectively met its objectives of identifying programme strengths and areas for enhancement for the next five-year period of revalidation.

## Part 9. Recommendations on review process

While acknowledging the thoroughness of the review process, the panel suggests two key areas for enhancement:

1. Increased industry engagement – the programme should demonstrate more substantial involvement with industry stakeholders during the review process in future.
2. Enhanced data collection related to annual programme monitoring.

These improvements would further strengthen the quality and relevance of the programme, ensuring it remains aligned with industry needs and academic standards.

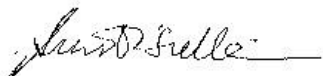
## Part 10. Commentary on programme revisions

The panel are partially satisfied with all of the programme's revisions. For a full articulation of the panel's commendations, conditions of validation and recommendation, please refer to the Independent Evaluation Report.

## Part 11. Recommendations on programme revisions:

The conditions and recommendations arising from the programme's revisions are explicitly detailed in the Independent Evaluation Report.

Signed:



Panel Chairperson: Dr Sinéad O'Sullivan

Date:

\_\_\_\_ 25<sup>th</sup> February 2025 \_\_\_\_\_

**QQI**Quality and Qualifications Ireland  
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

# Independent Evaluation Report on an Application for Revalidation of a Programme of Education and Training

## Part 1. Provider details

<b>Provider name</b>	Dublin Business School
<b>Date of site visit</b>	Virtual panel held on 28 <sup>th</sup> January 2025
<b>Date of report</b>	15 <sup>th</sup> February 2025

## Section A. Overall recommendations

<b>Principal programme</b>	<b>Title</b>	Master of Science in Artificial Intelligence
	<b>Award</b>	Master of Science
	<b>Credit</b>	90 ECTS
	<b>Recommendation</b> <i>Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory</i>	Satisfactory subject to proposed conditions.

<b>Embedded programme 1</b>	<b>Title</b>	Postgraduate Diploma in Science in Artificial Intelligence (Exit Award only)
	<b>Award</b>	Postgraduate Diploma in Science
	<b>Credit</b>	60 ECTS
	<b>Recommendation</b> <i>Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory</i>	Satisfactory subject to proposed conditions.

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## Part 2. Expert Panel

Name	Role on Panel	Affiliation
Dr Sinéad O'Sullivan	Chair	Director of Quality, UL
Dr Haithem Afli	Subject Matter Expert	Computer Science lecturer, MTU
Professor Mark Lee	Subject Matter Expert [International]	Professor of Artificial Intelligence at University of Birmingham
Ontiretse Ishmael	Learner Representative	NStEP trained in Quality Assurance
Dr Claudia Igbrude	Industry Representative	Enterprise Learning Technology leader, PayPal; PhD in Computer Science
Sam Whelan	Secretary	Programme Development – Project Manager, Griffith College

## Part 3. Programme Information

### 3.1 Principal Programme – Master of Science in Artificial Intelligence

Names of centre(s) where the programme(s) is to be provided	Maximum number of learners ( <i>per centre</i> )	Minimum number of learners
Dublin Business School, 13-14 Aungier Street, Dublin 2	600	10

Proposed Enrolment	
<b>Date of first intake</b>	September 2025 (Full time and Part time)
<b>Maximum number of annual intakes</b>	Full time – 3 intakes (September, January and March / April) Part time – 2 intakes (September and January)
<b>Maximum total number of learners per intake</b>	Full time – 120 learners Part time – 120 learners
<b>Programme duration (<i>months from start to completion</i>)</b>	Full time – 12 months Part time – 24 months
<b>Panel Commentary on proposed enrolment:</b>	
<p>The panel is satisfied with the proposed enrolment numbers but included one recommendation in their findings:</p> <p>The panel recommends that the programme team keep a watching brief on recruitment numbers in terms of their capacity to supervise dissertations and manage assessments should their intake numbers rise in line with new proposed maximum intake numbers.</p>	
<b>Target learner groups</b>	
<p>The Master of Science in Artificial Intelligence programme is aimed at learners with a minimum-second-class second-division (2.2) Level 8 honours bachelor's degree or Higher Diploma in a cognate area who wish to specialise in the field of Artificial Intelligence with a view to entering industry. Cognate subjects include computer science, technology, networking, information systems, engineering, general science, mathematics, statistics, data analytics, or related disciplines.</p> <p>The programme has specific aims to cultivate a deep understanding of current and emerging computer technologies, particularly in the development and use of information systems. It also provides students with the knowledge and skills to effectively manage information technology within organisational contexts.</p> <p>Recognising the dynamic nature of the computing sector, the programme promotes the development of autonomous learning skills, enabling graduates to adapt to evolving industry needs. It also instills a strong ethical awareness, preparing graduates to respond thoughtfully to unforeseen challenges.</p> <p>Ultimately, this programme provides a comprehensive foundation for career development, innovation, and further study in the field of Artificial Intelligence. Graduates will possess a critical understanding of core concepts, enhanced practical skills, and the research capabilities needed to excel in this dynamic field.</p>	
<b>Approved countries for provision</b>	Ireland
<b>Delivery mode: Full-time/Part-time</b>	Full time and Part time

### The teaching and learning modalities

- Integrated tutorials with industry engagement.
- Problem based learning exercises with trade practitioners.
- Co-delivering and guest lecturing on focussed syllabus content.
- Application workshop sessions, diagnostic and troubleshooting skills.
- Case study analysis, review, critiquing – reflective learning and writing skills.
- Blended learning and Flipped Classroom delivery.
- Online synchronous and asynchronous delivery of lecturers.
- Directed e-learning.

### Brief synopsis of the programme (e.g. who it is for, what is it for, what is involved for learners, what it leads to.)

The Masters has been designed to meet the growing need for Artificial Intelligence (AI) throughout the workforce which can directly add value and wealth to Irish businesses and the society. Given society's increasing communications with the global partners, AI is emerging as an identifiable discipline with a breadth and depth of content that encompasses many of the subfields (e.g. software development, machine learning, human/machine interactions etc.) that form the modern computing ecosystem.

Semester one (FT) lays the groundwork for the programme and encompasses mostly foundational modules that focus on providing a solid and comprehensive understanding of the relevant concepts, a proficiency in the use of programming for data analytics and machine learning, and pattern recognition. Learners develop advanced applied skills in essential areas such as programming, graph, machine learning and pattern recognition for AI, while also offering knowledge of research methods to develop an understanding of the current developments and literature.

Semester two (FT) builds on this by covering advanced modules in which the knowledge, understanding, and skills acquired in the first semester can be employed. Semester two modules offer applied skills in topics such as deep learning, reinforcement learning, and natural language processing, as well as recommender systems. Semester two also comprises an Applied Research Methods module, which focuses on research and development skills. This module will inform learners' Applied Research Project in Semester three (FT).

In addition, the programme aims to incorporate advanced practical skills in each module for the professional development of learners to enhance their employability options. This will enable the learner to integrate seamlessly into an organisation by addressing skills such as awareness of social media, leadership, self-management, teamwork, and academic writing that are essential for a Level 9 graduate.

The programme aims to develop learners within the Artificial Intelligence (AI) discipline involving skills in technology, programming, data science, and information processing to respond to the ever-growing demand across industries for AI specialists. The programme also recognises the interdisciplinary nature of AI, combined with analytics and exploding data volumes, creating an environment for AI to emerge as a key technology of the future. According to a recent report by Forbes 2AI skills will be required in every industry and could create globally up to 22 million new jobs. Recent findings and estimates were presented in the World Economic Forum, and the estimates were that by 2025 machines are expected to perform more current work tasks than humans, compared to 71% being performed by humans today. The report concludes that robotics, smart automation technology, and artificial intelligence, could contribute up to \$15 trillion to global GDP by 2030.

This programme is designed to meet the growing need for AI throughout the workforce which can directly create added value and wealth to the Irish businesses and the society. Given society's increasing communications with the global partners, AI is emerging as an identifiable discipline with a breadth and depth of content that encompasses many of the subfields (e.g., software

development, machine learning, human/machine interactions etc.) that form the modern computing ecosystem. Underlying this emergence is the need to prepare specialists across a range of work roles for the complexities associated with this modern working style.

Learners initially develop advanced practical skills in essential areas such as Programming for Data Analytics, Machine Learning, and Pattern Recognition. Furthering the learner's practical abilities, the programme offers applied skills in contemporary topics such as recommender systems, deep learning and reinforcement learning as well as natural language processing.

The programme aims are to incorporate practical skills in each module for the professional development of learners to enhance their employability options. This will enable the learner to integrate seamlessly into an organisation. The Master of Science programme also comprises a Research Methods and an Applied Research Methods module, which focuses on research and development skills. This module will inform the learner's capstone project. Throughout the programme, learners will develop advanced critical thinking, writing, and research skills. The Applied Research Project is specifically designed to encourage learners to formulate industry-focused 'problem' statements. Learners will then be supported by academic supervisors and introduced to industry mentors in their chosen field of contemporary research. Through this process, learners will have the opportunity to research, ideate, develop, and innovate solutions to create value for real-world AI decisions makers.

**The Master of Science programme objectives are to:**

- Enable learners to develop mastery of current and developing computer technologies especially skills related to the development and use of Artificial Intelligence.
- Provide learners with a deep and systematic knowledge of the management of Artificial Intelligence in organisational contexts.
- Facilitate the development of applied skills that are directly complementary and relevant to the workplace.
- Identify and develop autonomous learning skills for the learners.
- Develop in learners a deep and systematic understanding of current issues of research and analysis.
- Enable the learners to identify, develop and apply detailed analytical, creative, problem solving and research skills.
- Respond ethically and informatively to address any unseen situations that may arise due to the emerging needs of industry.
- Provide the learner with a comprehensive platform for career development, innovation and further study.

Overall, the programme aims to create in learners a critical understanding of Artificial Intelligence skills, whilst also enhancing the research capability and technical skills of learners. There is one embedded programme in the Master of Science in Artificial Intelligence, a Postgraduate Diploma in Science in Artificial Intelligence. The Postgraduate Diploma is offered as an exit award for learners who cannot complete the full Master's programme.

Summary of specifications for teaching staff	WTE
<p><b>Lecturers</b> Lecturing staff will have a minimum of a Masters and/or PhD in the following areas:</p> <ul style="list-style-type: none"> <li>● Computing science / Computing ● Artificial Intelligence ● Data Analytics</li> <li>● Computer Technology ● Mathematics and statistic ● Research methods</li> </ul> <p>In modules where industry experience is desirable, those who are exceptionally qualified by virtue of senior significant experience may also be considered</p>	9
<p><b>Academic Director</b> The Academic Director will be responsible for the overall management and development of the programme, the coordination of the organisation and delivery of the programme, and the management and support of learners on the programme through Assistant Academic Directors and Programme Level Managers. The Academic Director is responsible for the suite of programmes in their discipline area and ensures programme offerings are current, employment-focused and academically robust and coherent in construct. The Academic Director provides academic leadership to Faculty and to Programme Teams in the development and delivery of high-quality, progressive, learner-centred education.</p>	1
<p><b>Assistant Academic Director</b> The Assistant Academic Director works alongside the Academic Director across many of their duties, including the management and development of the programme, the coordination of the organisation and delivery of the programme, and the management and support of learners on the programme. The Assistant Academic Director also works in a student facing capacity, through teaching and supporting students more generally throughout their time as DBS.</p>	1
<p><b>Programme Level Manager</b> The Programme Level Manager (PLM) provides professional leadership and management for an allocated subject area in order to facilitate teaching and learning and to secure effective use of resources. This includes undertaking teaching duties as appropriate to the requirements of a programme and consistent with the area(s) of expertise, keeping up to date with teaching and learning developments and being alert to best practice, providing guidance to colleagues on content, methodology and resources regarding the subject area and answering subject specific queries and requests for accommodations from learners.</p>	1
<p><b>Faculty Manager</b> Faculty Managers (FM) are key members of the academic management team in DBS who assist the Head of Teaching Delivery and Content Production in the management of the academic full-time and part-time staff. Each Faculty Manager has direct line-management responsibility for a large number of staff, ensuring that programmes are staffed correctly, staff performance is measured and reviewed, annual budgets are prepared, costs are controlled, and reporting on academic performance to internal governance and quality boards. While FMs have overall responsibility for academic staff management, operational responsibility for academic management and support of students at programme level is the responsibility of Academic Directors.</p>	1
<p><b>Programme Coordinators</b> Programme Coordinators provide administrative support to learners and ensure all students are provided with full details of their programme of study. They are the first point of contact for learners on a range of issues such as programme queries, deferrals, personal mitigating circumstances (PMCs) that may affect their learning. Programme Coordinators are responsible for day-to-day management of student information and data.</p>	1

<b>Learning Activity</b>	<b>Ratio of learners to teaching staff</b>
Classroom sessions	1:60
Workshops	1:30
Practical Sessions	1:30
Online Class (live)	1:30
<b>Panel Commentary on programme outline and staffing:</b> The panel are satisfied with the programme outline and staffing.	

<b>Programmes being replaced (applicable to applications for revalidation)</b>		
<b>Code</b>	<b>Title</b>	<b>Last enrolment date</b>
PG24324	Master of Science in Artificial Intelligence	December 2025

### 3.2 Embedded Programme 1 – Postgraduate Diploma in Science in Artificial Intelligence [Exit Award]

Names of centre(s) where the programme(s) is to be provided	Maximum number of learners (per centre)	Minimum number of learners
Dublin Business School, 13-14 Aungier Street, Dublin 2	Not applicable	

Proposed Enrolment	
Date of first intake	Not applicable
Maximum number of annual intakes	Not applicable
Maximum total number of learners per intake	Not applicable
Programme duration (months from start to completion)	Full time – 12 months Part time – 18 months
<b>Panel Commentary on proposed enrolment:</b> The proposed programme is an exit award only – not applicable.	
<b>Target learner groups</b>	
Not applicable	
Approved countries for provision	Ireland
Delivery mode: Full-time/Part-time	Full time and Part time
<b>The teaching and learning modalities</b>	
<ul style="list-style-type: none"> <li>• Integrated tutorials with industry engagement.</li> <li>• Problem based learning exercises with trade practitioners.</li> <li>• Co-delivering and guest lecturing on focussed syllabus content.</li> <li>• Application workshop sessions, diagnostic and troubleshooting skills.</li> <li>• Case study analysis, review, critiquing – reflective learning and writing skills.</li> <li>• Blended learning and Flipped Classroom delivery.</li> <li>• Online synchronous and asynchronous delivery of lecturers.</li> <li>• Directed e-learning.</li> </ul>	
<b>Brief synopsis of the programme</b>	
This Postgraduate Diploma in Science in Artificial Intelligence is an exit award aimed at FT and PT learners who may opt to leave the principal master’s degree early.	
<b>Summary of specifications for teaching staff</b>	<b>WTE</b>
<b>Lecturers</b> Lecturing staff will have a minimum of a Masters and/or PhD in the following areas: <ul style="list-style-type: none"> <li>• Computing science / Computing • Artificial Intelligence • Data Analytics</li> <li>• Computer Technology • Mathematics and statistic • Research methods</li> </ul> In modules where industry experience is desirable, those who are exceptionally qualified by virtue of senior significant experience may also be considered	9
<b>Academic Director</b> The Academic Director will be responsible for the overall management and development of the programme, the coordination of the organisation and delivery of the programme, and the management and support of learners on the programme through Assistant Academic Directors and Programme Level Managers. The Academic Director is responsible for the suite of programmes in their discipline area and ensures programme offerings are current, employment-focused and academically robust and coherent in construct. The Academic Director provides academic leadership to Faculty and to Programme Teams in the development and delivery of high-quality, progressive, learner-centred education.	1

<p><b>Assistant Academic Director</b> The Assistant Academic Director works alongside the Academic Director across many of their duties, including the management and development of the programme, the coordination of the organisation and delivery of the programme, and the management and support of learners on the programme. The Assistant Academic Director also works in a student facing capacity, through teaching and supporting students more generally throughout their time as DBS.</p>	1
<p><b>Programme Level Manager</b> The Programme Level Manager (PLM) provides professional leadership and management for an allocated subject area in order to facilitate teaching and learning and to secure effective use of resources. This includes undertaking teaching duties as appropriate to the requirements of a programme and consistent with the area(s) of expertise, keeping up to date with teaching and learning developments and being alert to best practice, providing guidance to colleagues on content, methodology and resources regarding the subject area and answering subject specific queries and requests for accommodations from learners.</p>	1
<p><b>Faculty Manager</b> Faculty Managers (FM) are key members of the academic management team in DBS who assist the Head of Teaching Delivery and Content Production in the management of the academic full-time and part-time staff. Each Faculty Manager has direct line-management responsibility for a large number of staff, ensuring that programmes are staffed correctly, staff performance is measured and reviewed, annual budgets are prepared, costs are controlled, and reporting on academic performance to internal governance and quality boards. While FMs have overall responsibility for academic staff management, operational responsibility for academic management and support of students at programme level is the responsibility of Academic Directors.</p>	1
<p><b>Programme Coordinators</b> Programme Coordinators provide administrative support to learners and ensure all students are provided with full details of their programme of study. They are the first point of contact for learners on a range of issues such as programme queries, deferrals, personal mitigating circumstances (PMCs) that may affect their learning. Programme Coordinators are responsible for day-to-day management of student information and data.</p>	1
<p><b>Learning Activity</b></p>	<p><b>Ratio of learners to teaching staff</b></p>
<p>Classroom sessions</p>	<p>1:60</p>
<p>Workshops</p>	<p>1:30</p>
<p>Practical Sessions</p>	<p>1:30</p>
<p>Online Class (live)</p>	<p>1:30</p>
<p><b>Panel Commentary on programme outline and staffing:</b> The panel are satisfied with the programme outline and staffing.</p>	

<p><b>Programmes being replaced (applicable to applications for revalidation)</b></p>		
<p><b>Code</b></p>	<p><b>Title</b></p>	<p><b>Last enrolment date</b></p>
<p>PG24325</p>	<p>Postgraduate Diploma in Science in Artificial Intelligence</p>	<p>December 2025</p>

**Part 4. Other noteworthy features of the application**

Not applicable.

**Part 1A Evaluation of the Case for an Extension of the Approved Scope of Provision (where applicable).**

Not applicable.

## Part 5. Evaluation against the validation criteria

### Criterion 1. The provider is eligible to apply for validation of the programme

<p>a) The provider meets the prerequisites (section 44(7) of the 2012 Act) to apply for validation of the programme.</p> <p>b) The application for validation is signed by the provider’s chief executive (or equivalent) who confirms that the information provided is truthful and that all the applicable criteria have been addressed.</p> <p>c) The provider has declared that their programme complies with applicable statutory, regulatory and professional body requirements.<sup>1</sup></p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	The panel is satisfied that Dublin Business School is eligible to apply for revalidation of the programme. The documentation provided to the panel evidenced all prerequisites have been met, that the information provided was confirmed to be truthful and that the programme fully complies with QQI standards.
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Yes	As above.

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<sup>1</sup>This criterion is to ensure the programme can actually be provided and will not be halted on account of breach of the law. The declaration is sought to ensure this is not overlooked but QQI is not responsible for verifying this declaration of enforcing such requirements.

**Criterion 2. The programme objectives and outcomes are clear and consistent with the QQI awards sought**

<p>a) The programme aims and objectives are expressed plainly.</p> <p>b) A QQI award is specified for those who complete the programme.          (i) Where applicable, a QQI award is specified for each embedded programme.</p> <p>c) There is a satisfactory rationale for the choice of QQI award(s).</p> <p>d) The award title(s) is consistent with unit 3.1 of QQI's <i>Policy and Criteria for Making Awards</i>.</p> <p>e) The award title(s) is otherwise legitimate for example it must comply with applicable statutory, regulatory and professional body requirements.</p> <p>f) The programme title and any embedded programme titles are          (i) Consistent with the title of the QQI award sought.          (ii) Clear, accurate, succinct and fit for the purpose of informing prospective learners and other stakeholders.</p> <p>g) For each programme and embedded programme          (i) The <b>minimum intended programme learning outcomes</b> and any other educational or training objectives of the programme are explicitly specified.<sup>2</sup>          (ii) The minimum intended programme learning outcomes to qualify for the QQI award sought are <b>consistent with</b> the relevant QQI awards standards.</p> <p>h) Where applicable, the <b>minimum intended module learning outcomes</b> are explicitly specified for each of the programme's modules.</p> <p>i) Any QQI minor awards sought for those who complete the modules are specified, where applicable.</p> <p>For each minor award specified, the minimum intended module learning outcomes to qualify for the award are consistent with relevant QQI minor awards standards.<sup>3</sup></p>
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	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	<p>The panel is satisfied that the programme objectives and outcomes are clear and consistent. The programme title and choice of QQI award are well rationalised and legitimate. The programme objectives are expressed plainly in s. 2.1 of the programme document. The minimum intended programme learning outcomes (MIPLOs) are explicitly specified bar the exception of MIPLO 1, which could be better expressed for measurability and appropriateness for a level 9 programme. Further to this point, the panel felt that the language used across the minimum intended module learning outcomes (MIMLOS) could also be improved in terms of measurability and appropriateness for a level 9 programme. Many of the MIMLOS used phrases such as: demonstrate an awareness; demonstrate an understanding; understand what / how.</p> <p><b>Recommendation 1</b>            Make sure the language used in the programme and module learning outcomes are appropriate for a level 9 programme. For example:</p> <ul style="list-style-type: none"> <li>• MIPLO 1</li> <li>• MIMLOS 2.3, 2.6, 5.1, 5.6, 6.3, 6.4, 6.6, 7.1, 7.3, 7.5, 8.2, 8.4, 8.6</li> </ul>

<sup>2</sup> Other programme objectives, for example, may be to meet the educational or training requirements of a statutory, regulatory or professional body.

<sup>3</sup> Not all modules will warrant minor awards. Minor awards feature strongly in the QQI common awards system however further education and training awards may be made outside this system.

<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Yes	As above.
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**Criterion 3. The programme concept, implementation strategy, and its interpretation of QQI awards standards are well informed and soundly based (considering social, cultural, educational, professional and employment objectives)**

<p>a) The development of the programme and the intended programme learning outcomes has sought out and taken into account the views of stakeholders such as learners, graduates, teachers, lecturers, education and training institutions, employers, statutory bodies, regulatory bodies, the international scientific and academic communities, professional bodies and equivalent associations, trades unions, and social and community representatives.<sup>4</sup></p> <p>b) The interpretation of awards standards has been adequately informed and researched; considering the programme aims and objectives and minimum intended programme (and, where applicable, modular) learning outcomes.</p> <p>(i) There is a satisfactory rationale for providing the programme.</p> <p>(ii) The proposed programme compares favourably with existing related (comparable) programmes in Ireland and beyond. Comparators should be as close as it is possible to find.</p> <p>(iii) There is support for the introduction of the programme (such as from employers, or professional, regulatory or statutory bodies).</p> <p>(iv) There is evidence<sup>5</sup> of learner demand for the programme.</p> <p>(v) There is evidence of employment opportunities for graduates where relevant<sup>6</sup>.</p> <p>(vi) The programme meets genuine education and training needs.<sup>7</sup></p> <p>c) There are mechanisms to keep the programme updated in consultation with internal and external stakeholders.</p> <p>d) Employers and practitioners in the cases of vocational and professional awards have been systematically involved in the programme design where the programme is vocationally or professionally oriented.</p> <p>e) The programme satisfies any validation-related criteria attaching to the applicable awards standards and QQI awards specifications.</p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	<p>The panel is satisfied that the programme’s concept, strategy and interpretation of the awards standards is fully merited. As an existing programme under review, the rationale, demand and employment opportunities are demonstrably strong especially with the pace of growth in the AI sector. The programme demonstrates strong stakeholder engagement across the board – learners, graduates, external examiners and external stakeholders.</p> <p>One area for improvement is the influence of employer engagement in the programme. For the speed of growth in the AI sector, it is imperative that learners are kept abreast of industry advancements and change.</p> <p>The programme management team highlighted the influence of external stakeholders in the design of the programme but explicit evidence of this influence was minimal in the documentation provided. To account for that, and the importance of ongoing industry engagement, the panel has the following recommendation:</p>

<sup>4</sup> Awards standards however detailed rely on various communities for their interpretation. This consultation is necessary if the programme is to enable learners to achieve the standard in its fullest sense.

<sup>5</sup> This might be predictive or indirect.

<sup>6</sup> It is essential to involve employers in the programme development and review process when the programme is vocationally or professionally oriented.

<sup>7</sup> There is clear evidence that the programme meets the **target learners’** education and training needs and that there is a clear demand for the programme.

		<p><b>Recommendation 2</b></p> <p>Strengthen engagement with industry stakeholders to ensure the programme remains dynamic and aligned with industry needs. This includes establishing more formal programme specific industry input for future programme development and enhancing industry exposure for learners through initiatives such as guest lectures.</p>
<p><b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b></p>	<p>Yes</p>	<p>Same as above.</p>

Criterion 4. **The programme’s access, transfer and progression arrangements are satisfactory**

- a) The information about the programme as well as its procedures for access, transfer and progression are consistent with the procedures described in QQI's policy and criteria for access, transfer and progression in relation to learners for providers of further and higher education and training. Each of its programme-specific criteria is individually and explicitly satisfied<sup>8</sup>.
- b) Programme information for learners is provided in plain language. This details what the programme expects of learners and what learners can expect of the programme and that there are procedures to ensure its availability in a range of accessible formats.
- c) If the programme leads to a higher education and training award and its duration is designed for native English speakers, then the level of proficiency in English language must be greater or equal to B2+ in the Common European Framework of Reference for Languages (CEFR<sup>9</sup>) in order to enable learners to reach the required standard for the QQI award.
- d) The programme specifies the learning (knowledge, skill and competence) that **target learners** are expected to have achieved before they are enrolled in the programme and any other assumptions about enrolled learners (programme participants).
- e) The programme includes suitable procedures and criteria for the **recognition of prior learning** for the purposes of access and, where appropriate, for advanced entry to the programme and for exemptions.
- f) The programme title (the title used to refer to the programme):-
  - (i) Reflects the core *intended programme learning outcomes*, and is consistent with the standards and purposes of the QQI awards to which it leads, the award title(s) and their class(es).
  - (ii) Is learner focused and meaningful to the learners;
  - (iii) Has long-lasting significance.
- g) The programme title is otherwise legitimate; for example, it must comply with applicable statutory, regulatory and professional body requirements.

	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Partially	<p>The panel is satisfied that the programme’s ATP arrangements are consistent with QQI’s policy and criteria; learner information in plain language; the programme title is suitable and meaningful and legitimate.</p> <p>The programme is clear on English language requirements but the panel was not satisfied that the specifics of mathematical proficiency required for target learners was clear. In that respect, the panel has one condition of validation:</p> <p><b>Condition 1</b> Specify linear algebra and probability in the entry requirements for mathematics.</p> <p>During the panel meetings, and in the programme document, it was noted that transfers are not facilitated inward to the programme. The panel queried if learners who had already completed microcredentials or other non-major awards could transfer to the programme.</p>

<sup>8</sup> Each of the detailed criteria set out in the Policy and criteria for access, transfer and progression in relation to learners for providers of further and higher education and training must be addressed in the provider’s evaluation report. The detailed criteria are (QQI, restated 2015) arranged under the headings

- Progression and transfer routes
- Entry arrangements
- Information provision

<sup>9</sup> [http://www.coe.int/t/dg4/linguistic/Source/Framework\\_EN.pdf](http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf) (accessed 26/09/2015)

		<b>Recommendation 3</b> Consider allowing learners who complete microcredentials or other non-major awards to transfer into the programme.
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Partially	As above.

Criterion 5. **The programme’s written curriculum is well structured and fit-for-purpose**

<p>a) The programme is suitably structured and coherently oriented towards the achievement by learners of its intended programme learning outcomes. The programme (including any stages and modules) is integrated in all its dimensions.</p> <p>b) In so far as it is feasible the programme provides choice to enrolled learners so that they may align their learning opportunities towards their individual educational and training needs.</p> <p>c) Each module and stage is suitably structured and coherently oriented towards the achievement by learners of the intended <i>programme</i> learning outcomes.</p> <p>d) The objectives and purposes of each of the programme’s elements are clear to learners and to the provider’s staff.</p> <p>e) The programme is structured and scheduled realistically based on sound educational and training principles<sup>10</sup>.</p> <p>f) The curriculum is comprehensively and systematically documented.</p> <p>g) The credit allocated to the programme is consistent with the difference between the entry standard and minimum intended programme learning outcomes.</p> <p>h) The credit allocated to each module is consistent with the difference between the module entry standard and minimum intended module learning outcomes.</p> <p>i) Elements such as practice placement and work-based phases are provided with the same rigour and attentiveness as other elements.</p> <p>j) The programme <b>duration</b> (expressed in terms of time from initial enrolment to completion) and its <b>fulltime equivalent contact time</b> (expressed in hours) are consistent with the difference between the minimum entry standard and award standard and with the credit allocation.<sup>11</sup></p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Partially	<p>The panel is partially satisfied that the curriculum is well structured and fit-for-purpose. The programme team seamlessly documented the structure of the programme with a clear focus on core AI skills and enhancing practical technical skills. The programme is thoughtfully scaffolded and with the addition of the traditional Dissertation route has also afforded learners more choice and an opportunity for deeper research. All module weightings and objectives are consistent and clear. There is no practice placement nor work-based element.</p> <p>Overall, the panel was impressed with the strength of the curriculum as referenced in the programme team’s SWOT analysis of the programme. The deeper dive into the programme’s modules and content during the panel meeting convinced the panel, and particularly the subject matter experts that the programme is thoughtfully conceived. This led to the following commendation:</p> <p><b>Commendation 1</b> The panel commends the module content and the programme as a whole.</p> <p>The rationale for the removal of the Cognitive and Ethical Dimensions of AI module however, led to some concerns from a panel perspective. Though the programme team insisted that ethics (encapsulating</p>

<sup>10</sup> This applies recursively to each and every element of the programme from enrolment through to completion.

In the case of a modular programme, the pool of modules and learning pathway constraints (such as any prerequisite and co-requisite modules) is explicit and appropriate to the intended programme learning outcomes.

<sup>11</sup> If the duration is variable, for example, when advanced entry is available, this should be explained and justified

		<p>regulation, legal matters, trustworthiness etc.) was now embedded across the programme, the panel did not see evidence of this in the documentation provided. Indeed, from an industry perspective, ethics or more broadly 'Responsible AI' is a core consideration and value in all aspects of AI-related roles. With that in mind, the panel had the following Condition of Validation:</p> <p><b>Condition 2</b> Explicitly articulate the inclusion of 'Responsible AI' across the module learning outcomes.</p>
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Partially	As above.

**Criterion 6. There are sufficient qualified and capable programme staff available to implement the programme as planned**

<p>a) The specification of the programme’s staffing requirements (staff required as part of the programme and intrinsic to it) is precise, and rigorous and consistent with the programme and its defined purpose. The specifications include professional and educational qualifications, licences-to practise where applicable, experience and the staff/learner ratio requirements. See also criterion 12 c).</p> <p>b) The programme has an identified complement of staff<sup>12</sup> (or potential staff) who are available, qualified and capable to provide the specified programme in the context of their existing commitments.</p> <p>c) The programme's complement of staff (or potential staff) (those who support learning including any employer-based personnel) are demonstrated to be competent to enable learners to achieve the intended programme learning outcomes and to assess learners’ achievements as required.</p> <p>d) There are arrangements for the performance of the programme’s staff to be managed to ensure continuing capability to fulfil their roles and there are staff development<sup>13</sup> opportunities<sup>14</sup>.</p> <p>e) There are arrangements for programme staff performance to be reviewed and there are mechanisms for encouraging development and for addressing underperformance.</p> <p>f) Where the programme is to be provided by staff not already in post there are arrangements to ensure that the programme will not enrol learners unless a complement of staff meeting the specifications is in post.</p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	The panel is satisfied that the documentation provided indicates that there are sufficient qualified and capable staff available to implement the programme as planned. The qualifications and experience required, as specified in the programme document, is evidenced in the CVs of the programme team. Their expertise, knowledge and experience were also evident in the rich discussion held between the programme team and panel. Staff development is supported by DBS’ Learning Unit, while a number of the team are also research active.
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Yes	As above.

<sup>12</sup> Staff here means natural persons required as part of the programme and accountable (directly or indirectly) to the programme’s provider, it may for example, include contracted trainers and workplace supervisors.

<sup>13</sup> Development here is for the purpose of ensuring staff remain up-to-date on the discipline itself, on teaching methods or on other relevant skills or knowledge, to the extent that this is necessary to ensure an adequate standard of teaching.

<sup>14</sup> Professional or vocational education and training requires that teaching staff’s professional/vocation knowledge is up to date. Being qualified in a discipline does not necessarily mean that a person is currently competent in that discipline. Therefore, performance management and development of professional and vocational staff needs to focus on professional/vocational competence as well as pedagogical competence. Professional development may include placement in industry, for example. In regulated professions it would be expected that there are a suitable number of registered practitioners involved.

Criterion 7. **There are sufficient physical resources to implement the programme as planned**

<p>a) The specification of the programme’s physical resource requirements (physical resources required as part of the programme and intrinsic to it) is precise, and rigorous and consistent with the programme, its defined purpose and its resource/learner-ratio requirements. See also criterion 12 d).</p> <p>b) The programme has an identified complement of supported physical resources (or potential supported physical resources) that are available in the context of existing commitments on these e.g. availability of:</p> <ul style="list-style-type: none"> <li>(i) suitable premises and accommodation for the learning and human needs (comfort, safety, health, wellbeing) of learners (this applies to all of the programme’s learning environments including the workplace learning environment)</li> <li>(ii) suitable information technology and resources (including educational technology and any virtual learning environments provided)</li> <li>(iii) printed and electronic material (including software) for teaching, learning and assessment</li> <li>(iv) suitable specialist equipment (e.g. kitchen, laboratory, workshop, studio) – if applicable</li> <li>(v) technical support</li> <li>(vi) administrative support</li> <li>(vii) company placements/internships – if applicable</li> </ul> <p>c) If versions of the programme are provided in parallel at more than one location each independently meets the location-sensitive validation criteria for each location (for example staffing, resources and the learning environment).</p> <p>d) There is a five-year plan for the programme. It should address</p> <ul style="list-style-type: none"> <li>(i) Planned intake (first five years) and</li> <li>(ii) The total costs and income over the five years based on the planned intake.</li> </ul> <p>e) The programme includes controls to ensure entitlement to use the property (including intellectual property, premises, materials and equipment) required.</p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Partially	<p>The panel is partially satisfied that the programme meets this criterion. Overall, the programme has sufficient premises, digital resources and additional resources e.g. the award-winning Student Experience Team, Career support, mentorship programmes to implement the programme as planned. However, during discussions with current learners, it was highlighted that access to high-powered computers was a challenge on campus. In some cases, learners had mentioned having to fund their own access to relevant software to complete coursework. The programme team is aware of these issues. In respect of this resourcing issue, the panel has the following Condition of Validation:</p> <p><b>Condition 3</b> Provide resourcing solutions to ensure learners have access to the computational power required to complete course work.</p> <p>Note: the condition above also has implications in terms of the learner numbers envisaged over time.</p> <p>In terms of teaching, learning and assessment resources for the programme, the panel had the following recommendation based on the resource details in the programme document:</p> <p><b>Recommendation 4</b> Review and update learning resources (e.g. reading lists) to ensure they are up to date.</p>

<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Partially	As above.
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**Criterion 8. The learning environment is consistent with the needs of the programme's learners**

<p>a) The programme's physical, social, cultural and intellectual environment (recognising that the environment may, for example, be partly virtual or involve the workplace) including resources and support systems are consistent with the intended programme learning outcomes.</p> <p>b) Learners can interact with, and are supported by, others in the programme's learning environments including peer learners, teachers, and where applicable supervisors, practitioners and mentors.</p> <p>c) The programme includes arrangements to ensure that the parts of the programme that occur in the workplace are subject to the same rigours as any other part of the programme while having regard to the different nature of the workplace.</p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	<p>The panel is satisfied that the programme's physical, social, cultural and intellectual environment including resources and support systems are consistent with the intended programme learning outcomes and the needs of the learner.</p> <p>DBS has a well-established network of supports to ensure learners can meet the needs of the programme, whether its additional academic support (academic writing, programming, maths) or more personal issues (health and wellbeing, counselling or financial).</p>
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Yes	As above.

Criterion 9. **There are sound teaching and learning strategies**

<p>a) The teaching strategies support achievement of the intended programme/module learning outcomes.</p> <p>b) The programme provides authentic learning opportunities to enable learners to achieve the intended programme learning outcomes.</p> <p>c) The programme enables enrolled learners to attain (if reasonably diligent) the minimum intended programme learning outcomes reliably and efficiently (in terms of overall learner effort and a reasonably balanced workload).</p> <p>d) Learning is monitored/supervised.</p> <p>e) Individualised guidance, support and timely formative feedback is regularly provided to enrolled learners as they progress within the programme.</p>		
	<p><b>Satisfactory? (yes, no, partially)</b></p>	<p><b>Comment</b></p>
<p><b>Principal Programme – Master of Science in Artificial Intelligence</b></p>	<p>Yes</p>	<p>The panel is satisfied that the programme has sound teaching and learning strategies. From the panel discussions, it was clear that learners on the programme enjoyed the balance between theory and practice. Learners also enjoyed the range of subjects covered, which spiked curiosity and deeper self-study. The panel agreed that the T&amp;L strategy was authentic, covering core modules such as: Natural Language Processing, Machine Learning and Deep Learning.</p> <p>All learning is monitored and supervised and sufficient guardrails are in place to track learner progress through GitHub / Colab, interim checkpoints are schedule throughout semesters with learners also explicitly asked to specify any Generative AI interventions in their work.</p> <p>In terms of learner workload, the panel was concerned about potential overlap in content across the programme, which could negatively impact overall learner effort. For example, the introduction of the Research Methods module in semester one to complement the traditional Dissertation route may lead to overlap with the latter Applied Research Methods module. To avoid the potential for overlap, the panel has the following recommendation:</p> <p><b>Recommendation 5</b> Fine tune module content across the programme to avoid overlap, with a particular focus on the Research Methods modules.</p>
<p><b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b></p>	<p>Yes</p>	<p>As above.</p>

Criterion 10. **There are sound assessment strategies**

<p>a) All assessment is undertaken consistently with <i>Assessment Guidelines, Conventions and Protocols for Programmes Leading to QQI Awards</i><sup>15</sup></p> <p>b) The programme’s assessment procedures interface effectively with the provider’s QQI approved quality assurance procedures.</p> <p>c) The programme includes specific procedures that are fair and consistent for the assessment of enrolled learners to ensure the minimum intended programme/module learning outcomes are acquired by all who successfully complete the programme.<sup>16</sup></p> <p>d) The programme includes formative assessment to support learning.</p> <p>e) There is a satisfactory written <b>programme assessment strategy</b> for the programme as a whole and there are satisfactory module assessment strategies for any of its constituent modules.<sup>17</sup></p> <p>f) Sample assessment instruments, tasks, marking schemes and related evidence have been provided for each award-stage assessment and indicate that the assessment is likely to be valid and reliable.</p> <p>g) There are sound procedures for the moderation of summative assessment results.</p> <p>h) The provider only puts forward an enrolled learner for certification for a particular award for which a programme has been validated if they have been specifically assessed against the standard for that award.<sup>18</sup></p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Partially	<p>The panel is partially satisfied with the assessment strategy for the programme. Due to the nature and subject area of the programme, the team are more than well-equipped to handle the academic integrity concerns raised by Gen AI tools. The programme embeds formative assessment and check-ins to monitor assessment progress. Indeed, of particular note, was the transparency with which the programme team communicated the rules around Gen AI use for learners and had the following commendation:</p> <p><b>Commendation 2</b> The introduction of instructions to learners on when AI can be used and in what way across the assessment strategy is particularly useful in programme documentation.</p> <p>The decision to revise the assessment strategy for the programme by removing all proctored examination is consistent with a broader faculty strategy. The implementation of such a change however is a concern for the panel. The data presented in the Programme Review Report did not indicate strong enough dissatisfaction from learners or external examiners to warrant the changes in assessment. By adopting a 100% continuous assessment strategy, the programme runs the risk of encountering more academic integrity issues. The panel is aware of the rationale for more real-world practical assessment but feels strongly that the assessment strategy be revisited.</p>

<sup>15</sup> See the section on transitional arrangements.

<sup>16</sup> This assumes the minimum intended programme/module learning outcomes are consistent with the applicable awards standards.

<sup>17</sup> The programme assessment strategy is addressed in the Assessment Guidelines, Conventions and Protocols for Programmes Leading to QQI Awards. See the section on transitional arrangements.

<sup>18</sup> If the award is a QQI CAS compound award it is not necessarily sufficient that the learner has achieved all the components specified in the certification requirements unless at least one of those components is a capstone component (i.e. designed to test the compound learning outcomes).

		<p>The panel also notes that the proposed assessment schedule does not use the full 15 week semester. Final submission deadlines could be staggered more rather than all being required to be submitted in week 12 as currently proposed.</p> <p>On that basis, the panel has the following Condition of Validation:</p> <p><b>Condition 4</b> Revisit the decision to remove all proctored examinations bearing in mind the impact on external examining and academic integrity. The panel requests clarification on and consideration of</p> <ul style="list-style-type: none"> <li>• existing proctored practical assessment in modules</li> <li>• how it may be used in other modules.</li> <li>• How external examining procedures will be implemented for high stakes continuous assessment occurring early in the semester.</li> </ul> <p>Note: the condition is written with a view to helping the programme team consider the implementation of the assessment strategy, how the strategy will work in terms of external examining and programme monitoring. The panel want to be explicit that the condition is to revisit, not change, the decision to remove all proctored exams.</p> <p>In line with Section 6.3.4 of the Quality Assurance Handbook, the panel sought clarity on whether learners had to pass all taught modules before progressing on to the Dissertation stage of the programme. This requirement or any variations was not set out in the programme-specific documentation provided. Therefore, the panel has the following recommendation:</p> <p><b>Recommendation 6</b> Explicitly state the progression requirements for learners on to the Dissertation stage of the programme.</p>
<p><b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b></p>	<p>Partially</p>	<p>As above.</p>

**Criterion 11. Learners enrolled on the programme are well informed, guided and cared for**

<p>a) There are arrangements to ensure that each enrolled learner is fully informed in a timely manner about the programme including the schedule of activities and assessments.</p> <p>b) Information is provided about learner supports that are available to learners enrolled on the programme.</p> <p>c) Specific information is provided to learners enrolled on the programme about any programme-specific appeals and complaints procedures.</p> <p>d) If the programme is modular, it includes arrangements for the provision of effective guidance services for learners on the selection of appropriate learning pathways.</p> <p>e) The programme takes into account and accommodates to the differences between enrolled learners, for example, in terms of their prior learning, maturity, and capabilities.</p> <p>f) There are arrangements to ensure that learners enrolled on the programme are supervised and individualised support and due care is targeted at those who need it.</p> <p>g) The programme provides supports for enrolled learners who have special education and training needs.</p> <p>h) The programme makes reasonable accommodations for learners with disabilities<sup>19</sup>.</p> <p>i) If the programme aims to enrol international students it complies with the <i>Code of Practice for Provision of Programmes to International Students</i><sup>20</sup> and there are appropriate in-service supports in areas such as English language, learning skills, information technology skills and such like, to address the particular needs of international learners and enable such learners to successfully participate in the programme.</p> <p>j) The programme's learners will be well cared for and safe while participating in the programme, (e.g. while at the provider's premises or those of any collaborators involved in provision, the programme's locations of provision including any workplace locations or practice-placement locations).</p>		
	<b>Satisfactory? (yes, no, partially)</b>	<b>Comment</b>
<b>Principal Programme – Master of Science in Artificial Intelligence</b>	Yes	<p>The programme team conveyed a genuine commitment to their learners, evidenced in both the documentation provided, and throughout their meetings with the panel. From pastoral support and counselling services to academic supports and peer mentorship programmes, it was clear that all learners have access to the appropriate supports while on the programme (both on- and off-campus).</p> <p>In terms of special education and training needs, the college has a committed and experienced team who provide assistive technology and disability supports to ensure equity and inclusivity for all learners on the programme.</p> <p>Reflecting on the management structure of the programme, and how it is has been further resourced for the next iteration of the programme, the panel noted comments made during the learner session. Learners expressed uncertainty of who to go to with respect to programme and non-academic queries.</p> <p>On that basis, the panel has the following recommendation:</p>

<sup>19</sup> For more information on making reasonable accommodations see [www.AHEAD.ie](http://www.AHEAD.ie) and QQI's Policies, Actions and Procedures for Access, Transfer and Progression for Learners (QQI, restated 2015).

<sup>20</sup> See Code of Practice for Provision of Programmes to International Students (QQI, 2015)

		<p><b>Recommendation 7</b> Provide learners with greater clarity on:</p> <ul style="list-style-type: none"> <li>• the programme’s communication structures to ensure they are informed on who they should go to with programme-related (or non-academic) queries</li> <li>• who owns / is responsible for the academic direction programme</li> <li>• communications relating to the scheduling of formative feedback check-ins for assessments (as part of the new enhanced feedback strategy)</li> </ul>
<p><b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b></p>	Yes	As above.

Criterion 12. **The programme is well managed**

<p>a) The programme includes intrinsic governance, quality assurance, learner assessment, and access, transfer and progression procedures that functionally interface with the provider’s general or institutional procedures.</p> <p>b) The programme interfaces effectively with the provider’s QQI approved quality assurance procedures. Any proposed incremental changes to the provider’s QA procedures required by the programme or programme-specific QA procedures have been developed having regard to QQI’s statutory QA guidelines. If the QA procedures allow the provider to approve the centres within the provider that may provide the programme, the procedures and criteria for this should be fit-for-purpose of identifying which centres are suited to provide the programme and which are not.</p> <p>c) There are explicit and suitable programme-specific criteria for selecting persons who meet the programme’s staffing requirements and can be added to the programme’s complement of staff.</p> <p>d) There are explicit and suitable programme-specific criteria for selecting physical resources that meet the programmes physical resource requirements, and can be added to the programme’s complement of supported physical resources.</p> <p>e) Quality assurance<sup>21</sup> is intrinsic to the programme’s maintenance arrangements and addresses all aspects highlighted by the validation criteria.</p> <p>f) The programme-specific quality assurance arrangements are consistent with QQI’s statutory QA guidelines and use continually monitored completion rates and other sources of information that may provide insight into the quality and standards achieved.</p> <p>g) The programme operation and management arrangements are coherently documented and suitable.</p> <p>h) There are sound procedures for interface with QQI certification.</p>		
	<p><b>Satisfactory?</b> (yes, no, partially)</p>	<p><b>Comment</b></p>
<p><b>Principal Programme – Master of Science in Artificial Intelligence</b></p>	<p>Partially</p>	<p>The panel is partially satisfied that the programme is well managed. The College and programme management structure was outlined in the documentation provided and the additional role of Assistant Academic Director will help to strengthen the programme as it grows in terms of academic and learner support.</p> <p>As noted under Criterion 10, the panel is concerned that the implications of the decision to move to 100% continuous assessment may not be fully thought through in terms of the current procedures for external examining. The proposed assessment schedule indicates that high stakes assessment will take place early in the semester. It is not clear how it is intended that the external examiner will be involved in the process of approving assessment briefs for these high stakes assessments.</p> <p>From the data presented in the Programme Review Report, the absence of rich data on programme reporting and monitoring was noted. Senior management did clarify that Annual Programme Monitoring mechanisms were under review and, in that respect, the panel had the following recommendation for DBS:</p> <p><b>Recommendation 8</b> Use the revised annual monitoring mechanisms to enhance programme reporting with a specific emphasis on academic integrity data.</p> <p>The panel noted the considerable increase in proposed annual intakes for the next iteration of the programme. Though senior management</p>

<sup>21</sup> See also QQI’s Policy on Monitoring (QQI, 2014)

		<p>advised that this was to give headroom for future growth, the panel had the following recommendation:</p> <p><b>Recommendation 9</b>  Maintain a watching brief on recruitment numbers in terms of capacity to supervise dissertations and manage assessments should intake numbers rise in line with the new proposed maximum intake numbers.</p>
<b>Embedded Programme – Postgraduate Diploma in Science in Artificial Intelligence</b>	Partially	As above.

## Part 6. Overall recommendation to QQI

### 6.1 Principal programme:

Select one	
	Satisfactory (meaning that it recommends that QQI can be satisfied in the context of unit 2.3) of Core policies and criteria for the validation by QQI of programmes of education and training;
✓	Satisfactory subject to proposed special conditions (specified with timescale for compliance for each condition; these may include proposed pre-validation conditions i.e. proposed ( <b>minor</b> ) things to be done to a programme that almost fully meets the validation criteria before QQI makes a determination);
	Not satisfactory.

#### Reasons for the overall recommendation

1. The panel recommends revalidation of the Master of Science in Artificial Intelligence as currently proposed as the programme team has ensured that the programme substantively complies with and meets all standards as set out by QQI in relation to the revalidation of programmes (and its embedded programme).
2. During the virtual panel sessions, the panel found the faculty team extremely enthusiastic and committed to the continued success of the programme and its learners. These sentiments were further echoed by the current learners in their session and in the stakeholder feedback data provided in the documentation.
3. The panel is confident that the proposed new iteration of the programme will build on its previous success and growth subject to meeting the four conditions of validation set out in this report. The proposed changes and enhancements are also evidence of DBS commitment to its values and institutional strategy moving forward.

#### Commendations

1. The panel commends the module content and the programme as a whole. [Criterion 5]
2. The panel commends the introduction of instructions to learners on when AI can be used and in what way across the assessment strategy, which is particularly useful in programme documentation. [Criterion 10]

#### Special Conditions of Validation (directive and with timescale for compliance)

1. Specify linear algebra and probability in the entry requirements for mathematics. [Criterion 4]
2. Explicitly articulate 'Responsible AI' across the module learning outcomes. [Criterion 5]
3. Provide resourcing solutions to ensure learners have access to the computational power required to complete course work. [Criterion 7]
4. Revisit the decision to remove all proctored examinations bearing in mind the impact on external examining and academic integrity. The panel requests clarification on and consideration of
  - existing proctored practical assessment in modules
  - how it may be used in other modules
  - how external examining procedures will be implemented for high stakes continuous assessment occurring early in the semester. [Criterion 10]

## Embedded programme 1: Postgraduate Diploma in Science in Artificial Intelligence

Select one	
	Satisfactory (meaning that it recommends that QQI can be satisfied in the context of unit 2.3) of Core policies and criteria for the validation by QQI of programmes of education and training;
✓	Satisfactory subject to proposed special conditions (specified with timescale for compliance for each condition; these may include proposed pre-validation conditions i.e. proposed ( <b>minor</b> ) things to be done to a programme that almost fully meets the validation criteria before QQI makes a determination);
	Not satisfactory.

### Reasons for the overall recommendation

As above.

### Commendations

As above.

### Special Conditions of Validation (directive and with timescale for compliance)

As above.

## Summary of recommended special conditions of validation

1. Specify linear algebra and probability in the entry requirements for mathematics. [Criterion 4]
2. Explicitly articulate 'Responsible AI' across the module learning outcomes. [Criterion 5]
3. Provide resourcing solutions to ensure learners have access to the computational power required to complete course work. [Criterion 7]
4. Revisit the decision to remove all proctored examinations bearing in mind the impact on external examining and academic integrity. The panel requests clarification on and consideration of
  - existing proctored practical assessment in modules
  - how it may be used in other modules
  - how external examining procedures will be implemented for high stakes continuous assessment occurring early in the semester. [Criterion 10]

## Summary of recommendations to the provider


1. Make sure the language used in the programme and module learning outcomes is appropriate for a level 9 programme. For example:
  - a. MIPLO 1
  - b. MIMLOs 2.3, 2.6, 5.1, 5.6, 6.3, 6.4, 6.6, 7.1, 7.3, 7.5, 8.2, 8.4, 8.6 [Criterion 2]
2. Strengthen engagement with industry stakeholders to ensure the programme remains dynamic and aligned with industry needs. This includes establishing more formal programme-specific industry input for future programme development and enhancing industry exposure for learners through initiatives such as guest lectures. [Criterion 3]
3. Consider allowing learners who complete microcredentials or other non-major awards to transfer into the programme. [Criterion 4]
4. Review and update learning resources (e.g. reading lists) to ensure they are up to date. [Criterion 7]
5. Fine tune module content across the programme to avoid overlap, with a particular focus on the Research Methods modules. [Criterion 9]
6. Explicitly state the progression requirements for learners on to the Dissertation stage of the programme. [Criterion 10]
7. Provide learners with greater clarity on:
  - a. the programme's communication structures to ensure they are informed on who they should go to with programme-related (or non-academic) queries
  - b. who owns / is responsible for the academic direction of the programme
  - c. communications relating to the scheduling of formative feedback check-ins for assessments (as part of the new enhanced feedback strategy)
  - d. the assessment schedule across the 15 weeks per semester. [Criterion 11]
8. Use the revised annual monitoring mechanisms to enhance programme reporting with a specific emphasis on academic integrity data. [Criterion 12]
9. Maintain a watching brief on recruitment numbers in terms of capacity to supervise dissertations and manage assessments should intake numbers rise in line with the new proposed maximum intake numbers. [Criterion 12]

## Declarations of Evaluators' Interests

This report has been agreed by the evaluation panel and is signed on their behalf by the chairperson.

Panel chairperson: Dr Sinéad O'Sullivan

Date: 25<sup>th</sup> February 2025

Signed: 

## 6.2 Disclaimer

The Report of the External Review Panel contains no assurances, warranties or representations express or implied, regarding the aforesaid issues, or any other issues outside the Terms of Reference.

While QQI has endeavoured to ensure that the information contained in the Report is correct, complete and up-to-date, any reliance placed on such information is strictly at the reader's own risk, and in no event will QQI be liable for any loss or damage (including without limitation, indirect or consequential loss or damage) arising from, or in connection with, the use of the information contained in the Report of the External Evaluation Panel.

Part 7. Proposed programme schedules (post panel feedback and consequent amendments, if any)

<b>a Proposed Programme Schedule(s) - FULL TIME</b>																
<b>Name of Provider:</b>		Dublin Business School														
<b>Programme Title (Principal)</b>		MSc in Artificial Intelligence				<b>QQI Award Title</b>			Master of Science				<b>ECTS</b>		9 0	
<b>Stage (1,2,3, Award etc)</b>		Award		<b>Exit Award Title (if relevant)</b>			Postgraduate Diploma in Science in Artificial Intelligence						<b>Stage ECTS</b>		9 0	
<b>Programme Delivery Mode -</b> ✓ one as appropriate.		<b>On-site Face-to-Face</b>			<b>Blended</b>				<b>Online</b>			<b>Apprenticeship</b>				
					✓											
<b>Teaching and Learning Modalities –</b> ✓ one or more as appropriate.		<b>On-site Face-to-Face</b>			<b>Synchronous Hybrid</b>		<b>Synchronous Online</b>			<b>Asynchronous</b>		<b>Independent</b>		<b>Work Based</b>		
		✓					✓			✓		✓				
<b>Assessment Techniques Utilised in Stage –</b> ✓ one or more as appropriate.		<b>Continuous Assessment</b>			<b>Invigilated Exam – in person</b>			<b>Proctored Exam - online</b>			<b>Project</b>		<b>Practical Skills Demonstration</b>		<b>Work Based</b>	
		✓									✓					
<b>Modules in this stage (add rows as required)</b>																
					<b>Total Student Effort Module (hours)</b>						<b>Assessment – Allocation of Marks</b> <i>(from the module assessment strategy)</i>					
<b>Module Title</b>	<b>Semester</b>	<b>Mandatory (M) or Elective (E)</b>	<b>Credits (ECTS)</b>	<b>Total Hours</b>	<b>On-site Face-to-Face</b>	<b>Synchronous</b>	<b>Asynchronous</b>	<b>Independent</b>	<b>Work Based</b>	<b>Continuous Assessment %</b>	<b>Invigilated Exam</b>	<b>Proctored Exam – online %</b>	<b>Project</b>	<b>Practical Skills Demonstration %</b>	<b>Work Based %</b>	

											- in person %				
Programming for Data Analysis	1	M	10	250	48			202		100%					
Graph and AI	1	M	5	125	24			101		100%					
Machine Learning and Pattern Recognition	1	M	10	250	36	12		202		100%					
Research Methods	1	M	5	125	24			101		100%					
Recommender Systems	2	M	10	250	36	12		202		100%					
Deep Learning	2	M	10	250	36	12		202		100%					
Reinforcement learning	2	M	5	125	24			101		100%					
Natural Language Processing	2	M	5	125	24			101		100%					
Applied Research	2	M	5	125	24			101		100%					

h Method s															
Applied Researc h Project	3	E	25	625	6			619					100%		
Disserta tion	3	E	25	625	6			619					100%		

### B Proposed Programme Schedule(s) - PART TIME

<b>Name of Provider:</b>	Dublin Business School														
<b>Programme Title (Principal)</b>	MSc in Artificial Intelligence				<b>QQI Award Title</b>	Master of Science					<b>ECTS</b>	9	0		
<b>Stage (1,2,3, Award etc)</b>	Award		<b>Exit Award Title (if relevant)</b>	Postgraduate Diploma in Science in Artificial Intelligence							<b>Stage ECTS</b>	9	0		
<b>Programme Delivery Mode - ✓ one as appropriate.</b>	<b>On-site Face-to-Face</b>			<b>Blended</b>				<b>Online</b>			<b>Apprenticeship</b>				
				✓											
<b>Teaching and Learning Modalities – ✓ one or more as appropriate.</b>	<b>On-site Face-to-Face</b>			<b>Synchronous Hybrid</b>		<b>Synchronous Online</b>			<b>Asynchronous</b>		<b>Independent</b>		<b>Work Based</b>		
	✓					✓			✓		✓				
<b>Assessment Techniques Utilised in Stage – ✓ one or more as appropriate.</b>	<b>Continuous Assessment</b>			<b>Invigilated Exam – in person</b>			<b>Proctored Exam - online</b>			<b>Project</b>		<b>Practical Skills Demonstration</b>		<b>Work Based</b>	
	✓									✓					
<b>Modules in this stage (add rows as required)</b>															

					Total Student Effort Module (hours)					Assessment – Allocation of Marks (from the module assessment strategy)					
Module Title	Semester	Mandatory (M) or Elective (E)	Credits (ECTS)	Total Hours	On-site Face-to-Face	Synchronous	Asynchronous	Independent	Work Based	Continuous Assessment %	Invigilated Exam – in person %	Proctored Exam – online %	Project	Practical Skills Demonstration %	Work Based %
Programming for Data Analysis	1	M	10	250	3	33		214		100%					
Graph and AI	1	M	5	125	3	15		107		100%					
Machine Learning and Pattern Recognition	2	M	10	250	3	33		214		100%					
Research Methods	2	M	5	125	3	15		107		100%					
Recommender Systems	3	M	10	250	3	33		214		100%					
Deep Learning	4	M	10	250	3	33		214		100%					
Reinforcement learning	3	M	5	125	3	15		107		100%					

Natural Language Processing	4	M	5	125	3	15		107		100%				
Applied Research Methods	4	M	5	125	3	15		107		100%				
Applied Research Project	5	E	25	625	6			619				100%		
Dissertation	5	E	25	625	6			619				100%		

C Proposed Programme Schedule(s) - FULL TIME										
<b>Name of Provider:</b>	Dublin Business School									
<b>Programme Title</b>	Postgraduate Diploma in Science in Artificial Intelligence			<b>QQI Award Title</b>	Postgraduate Diploma in Science				<b>ECTS</b>	60
<b>Stage (1,2,3, Award etc)</b>	Award		<b>Exit Award Title (if relevant)</b>						<b>Stage ECTS</b>	60
<b>Programme Delivery Mode -</b> ✓ one as appropriate.	<b>On-site Face-to-Face</b>		<b>Blended</b>			<b>Online</b>		<b>Apprenticeship</b>		
			✓							
<b>Teaching and Learning Modalities –</b> ✓ one or more as appropriate.	<b>On-site Face-to-Face</b>		<b>Synchronous Hybrid</b>	<b>Synchronous Online</b>		<b>Asynchronous</b>		<b>Independent</b>	<b>Work Based</b>	
	✓			✓		✓		✓		

Assessment Techniques Utilised in Stage – ✓ one or more as appropriate.		Continuous Assessment	Invigilated Exam – in person	Proctored Exam - online	Project	Practical Skills Demonstration	Work Based								
		✓			✓										
<b>Modules in this stage (add rows as required)</b>															
					Total Student Effort Module (hours)			Assessment – Allocation of Marks <i>(from the module assessment strategy)</i>							
Module Title	Semester	Mandatory (M) or Elective (E)	Credits (ECTS)	Total Hours	On-site Face-to-Face	Synchronous	Asynchronous	Independent	Work Based	Continuous Assessment %	Invigilated Exam – in person %	Proctored Exam – online %	Project	Practical Skills Demonstration %	Work Based %
Programming for Data Analysis	1	M	10	250	48			202		100%					
Graph and AI	1	M	5	125	24			101		100%					
Machine Learning and Pattern Recognition	1	M	10	250	36	12		202		100%					
Research Methods	1	M	5	125	24			101		100%					

Recom mender Systems	2	M	10	25 0	36	12		202		100%					
Deep Learnin g	2	M	10	25 0	36	12		202		100%					
Reinforc ement learning	2	M	5	125	24			101		100%					
Natural Languag e Processi ng	2	M	5	125	24			101		100%					

#### **D Proposed Programme Schedule(s) - PART TIME**

<b>Name of Provider:</b>	Dublin Business School														
<b>Programme Title (Principal)</b>	Postgraduate Diploma in Science in Artificial Intelligence				<b>QQI Award Title</b>			Postgraduate Diploma in Science				<b>ECTS</b>		6 0	
<b>Stage (1,2,3, Award etc)</b>	Award		<b>Exit Award Title (if relevant)</b>									<b>Stage ECTS</b>		6 0	
<b>Programme Delivery Mode - ✓ one as appropriate.</b>	<b>On-site Face-to-Face</b>			<b>Blended</b>				<b>Online</b>			<b>Apprenticeship</b>				
				✓											
<b>Teaching and Learning Modalities – ✓ one or more as appropriate.</b>	<b>On-site Face-to-Face</b>			<b>Synchronous Hybrid</b>			<b>Synchronous Online</b>			<b>Asynchronous</b>		<b>Independent</b>		<b>Work Based</b>	
	✓						✓			✓		✓			
<b>Assessment Techniques</b>	<b>Continuous Assessment</b>			<b>Invigilated Exam – in person</b>			<b>Proctored Exam - online</b>			<b>Project</b>		<b>Practical Skills Demonstration</b>		<b>Work Based</b>	

<b>Utilised in Stage –</b> ✓ one or more as appropriate.		✓				✓									
<b>Modules in this stage</b> (add rows as required)															
					<b>Total Student Effort Module (hours)</b>					<b>Assessment – Allocation of Marks</b> <i>(from the module assessment strategy)</i>					
Module Title	Semester	Mandatory (M) or Elective (E)	Credits (ECTS)	Total Hours	On-site Face-to-Face	Synchronous	Asynchronous	Independent	Work Based	Continuous Assessment %	Invigilated Exam – in person %	Proctored Exam – online %	Project	Practical Skills Demonstration %	Work Based %
Programming for Data Analysis	1	M	10	250	3	33		214		100%					
Graph and AI	1	M	5	125	3	15		107		100%					
Machine Learning and Pattern Recognition	2	M	10	250	3	33		214		100%					
Research Methods	2	M	5	125	3	15		107		100%					
Recommender Systems	3	M	10	250	3	33		214		100%					

Deep Learning	4	M	10	250	3	33		214		100%					
Reinforcement learning	3	M	5	125	3	15		107		100%					
Natural Language Processing	4	M	5	125	3	15		107		100%					