QQI
Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

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

Part 1 A

Provider name	Dublin Business School
Date of site visit	14 February 2019
Date of report	19 March 2019
Is this a re-validation report?	No

Overall recommendations

Principal programme	Title	Master of Science in Business Analytics
	Award	Master of Science in Business Analytics
	Credit	90
Recommendation *Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory*		Satisfactory subject to proposed conditions

Embedded programme	Title	Postgraduate Diploma in Business Analytics
	Award	Postgraduate Diploma in Business Analytics
	Credit	60
	Exit award (Yes/No)	Yes
Recommendation *Satisfactory OR Satisfactory subject to proposed conditions OR Not Satisfactory*		Satisfactory subject to proposed conditions

Evaluators

Evaluators		
Name	**Role**	**Principal occupation**
Dr. Thomas O'Toole	Chair	Head of School (Dean) of Business, Waterford Institute of Technology
Mr. Mark Byrne	Secretary	Head of School of Business & I.T., Independent College Dublin
Dr. Julia Handle	Subject Expert	Senior Lecturer in Decision Sciences, Associate Head of Teaching MSM Division, Manchester Business School
Dr. Nadar Azizi	Subject Expert	Lecturer in Business Analytics and Director, MSc Business Analytics, University of Edinburgh Business School
Miss. Cliodhna Manning	Learner Representative	Current learner on a similar programme at Carlow Institute of Technology
Dr. Colin Melody	Employer Representative	Senior Manager, Consulting – Analytics and Information Management, Deloitte Ireland LLP

Evaluators

Part 1 B

Principal Programme: Master of Science in Business Analytics

Names of centres where the programmes are to be provided	Maximum number of learners *(per centre)*	Minimum number of learners
DBS: Dublin Campus	150	10

Enrolment interval *(normally 5 years)*	Date of first intake	September 2019
	Date of last intake	September 2023
Maximum number of annual intakes	3 intakes of 150: • September • January • March or April	
Maximum total number of learners per intake (over all centres)	150	
Programme duration (months from start to completion)	Full-time 12 months Part-time 18 months	
Target learner groups	Learners with a Level 8 honours Bachelor's degree in a cognate area (for example computer science, IT, science, mathematics, statistics, finance, economics, business (including quantitative methods), maths and management information systems), who wish to specialise in the field of business analytics with a view to entering industry, or those with a Level 8 honours Bachelor's degree in a non-cognate area plus three to five years experience of business analytics and who require a qualification in this area in order to progress professionally.	
Approved countries for provision	Ireland	
Delivery mode: Full-time/Part-time	Full-time and part-time	
The teaching and learning modalities	1. Classroom lectures 2. Case-based learning 3. Practical skills sessions 4. Workshops 5. Tutorials 6. Individual and group work 7. Online synchronous and asynchronous	
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 programme has been developed with the aim of providing learners with the knowledge, skills and research capability to critically analyse, implement and evaluate big data concepts and techniques in order to generate valuable insights, thereby assisting with strategic business decisions, increasing productivity, profitability and an organisation's value and market share. This is an interdisciplinary programme that focuses on business management, data analytics and computing. It is	

	designed to appeal to graduates seeking to gain exposure to the technology and data-enabled business model.
Summary of <u>specifications</u> for teaching staff	Lecturing staff will have a minimum of a Masters and/or PhD in the following areas: ● Computing science ● Business including quantitative methods and project management ● Data mining and business intelligence ● Finance ● Mathematics and statistics
Summary of specifications for the ratio of learners to teaching-staff	1/50 Classroom sessions 1/25 Workshops 1/25 Practical sessions
Overall WTE staff/learner ratio.[1]	FT: 0.122 WTE per learner for 25 learners, and 0.098 per learner for 50 learners PT: 0.097 WTE per learner for 25 learners, and 0.082 per learner for 50 learners

Programmes being replaced by the Master of Science in Business Analytics

Not Applicable

Embedded programme: Postgraduate Diploma in Business Analytics [2]

Names of centres where the programmes are to be provided	Maximum number of learners *(per centre)*	Minimum number of learners
This programme will not be offered independently of the principal programme. It is to be an exit award		

Other noteworthy features of the application

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

Not Applicable

---

[1] This is the total wholetime equivalent number of staff dedicated exclusively to this programme divided by the maximum number of learners that can be enrolled with that complement of staff.

[2] This only needs to be completed where embedded programmes may be offered independently of the principal programme. Add more subsections if there are more than one embedded programmes proposed to lead to QQI awards.

Part 2A Evaluation against the validation criteria

Criterion 1

The provider is eligible to apply for validation of the programme	
a) The provider meets the prerequisites (section 44(7) of the 2012 Act) to apply for validation of the programme.	
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.	
c) The provider has declared that their programme complies with applicable statutory, regulatory and professional body requirements.[3]	
Satisfactory (yes, no, partially)	**Comment**
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

The panel met with the DBS Senior Team, the programme team and various other members of staff to consider the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics.

DBS already delivers a range of QQI Approved programmes in Psychology, Business and IT up to NFQ Level 9 and has recently engaged in a pilot for institutional re-engagement with QQI (Appendix 1 and https://www.dbs.ie/courses).   This programme is seen as an appropriate addition to the already validated Masters of Science in Data Analytics (https://www.dbs.ie/course/postgraduate/master-of-science-(msc)-in-data-analytics).

The panel was provided with a copy of a letter to QQI dated 1 October 2018 detailing several documents included (including PEL arrangements, Deed of Guarantee pursuant to Section 65 of the Education and Training Act 2012).

It was confirmed that this programme was not being developed with a view to being offered as a Springboard programme.

Postgraduate Diploma in Business Analytics
The Postgraduate Diploma is Business Analytics is considered by the panel to be a suitable embedded award.

Master of Science in Business Analytics
The content and level of the programme is assessed by the panel to be leading to the specific QQI award as applied for.

The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion

---

[3] 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
a) The programme aims and objectives are expressed plainly.
b) A QQI award is specified for those who complete the programme.
(i) Where applicable, a QQI award is specified for each embedded programme.
c) There is a satisfactory rationale for the choice of QQI award(s).
d) The award title(s) is consistent with unit 3.1 of QQI's *Policy and Criteria for Making Awards.*
e) The award title(s) is otherwise legitimate for example it must comply with applicable statutory, regulatory and professional body requirements.
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.
g) For each programme and embedded programme
(i) The **minimum intended programme learning outcomes** and any other educational or training objectives of the programme are explicitly specified.[4]
(ii) The minimum intended programme learning outcomes to qualify for the QQI award sought are **consistent with** the relevant QQI awards standards.
h) Where applicable, the **minimum intended module learning outcomes** are explicitly specified for each of the programme's modules.
i) Any QQI minor awards sought for those who complete the modules are specified, where applicable.
For each minor award specified, the minimum intended module learning outcomes to qualify for the award are consistent with relevant QQI minor awards standards.[5]

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

Prior to the meeting the panel asked DBS to confirm that the Business Award Standards were appropriate for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics rather than the Computing Award Standards. The DBS response was received and the panel were content with DBS' selection of the Business Award Standards (section 2.2).

Prior to the panel meeting the panel asked DBS to confirm the correct ISCED code had been selected for both the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics. DBS confirmed that the incorrect code (0747) had been used and this would be addressed in the revised document (section 1.2.1 and 1.2.2).

The Panel and the programme team discussed the possibility of the title of the programmes (MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics) as being "Business and Analytics" rather than the titles as proposed. The programme team reported that this had been considered at length internally and the rationale for the title was that the programme team wanted a holistic view of the subject area to be perceived by the learners rather than the two and separate

---

[4] Other programme objectives, for example, may be to meet the educational or training requirements of a statutory, regulatory or professional body.

[5] 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.

"silos" of business and data analytics. In light of this discussion the panel made a number of recommendations and conditions to reflect the name of the programme (see criterion 5).

The Panel considered the that the programme learning outcomes of the principal and embedded programmes (section 2.4) should be revised to ensure that ethics was specifically included in the Postgraduate Diploma in Science in Business Analytics. The programme team were encouraged by the panel to also include a greater degree of "business" in the MIPLOs. The panel also commented on the absence of teamwork within the MIPLOs.

The relative amounts of content of business and data analytics was discussed. The programme team highlighted the relevant modules. The programme team may wish to include a diagrammatic representation of this to enhance the programme document and aid the understanding of learners.

The Panel queried the graduate attributes (section 3.3) as being for the embedded award or the principal award. During the visit a revised set of graduate attributes for the embedded award was provided which DBS confirmed would be included in the revised documents.

The Panel sought clarification as to the maximum enrolment on the principal per annum (section 1.2.2). DBS is applying for a maximum enrolment of three intakes of 150 per year on or around September, January and March or April to a total of 450 learners. Enrolment to the embedded award is not being applied for.

The panel proposes as a special condition of validation that:

- The correct ISCED code must be stated in the revised programme document for both the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics
- The programme learning outcomes for the embedded award and principal award must be reviewed to ensure that ethics (research ethics and ethics related to data) and teamwork are included in the embedded award MILPOs. Following the updates of the MIPLOS and any required amendments to MIMLOs and module content, the mapping exercise for the MIMLOS to the MIPLOs must be updated.
- The maximum possible enrolment per annum on the MSc in Business Analytics must reflect 450 rather than the current 150 in the documents. For example, sections 1.2.2 "Proposed first year (i.e. new learner) enrolment over five year" and 3.13 "Five-year plan for the proposed programme" of the programme document.

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)

    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.[6]

    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.

        (i) There is a satisfactory rationale for providing the programme.

        (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.

        (iii) There is support for the introduction of the programme (such as from employers, or professional, regulatory or statutory bodies).

        (iv) There is evidence[7] of learner demand for the programme.

        (v) There is evidence of employment opportunities for graduates where relevant[8].

        (vi) The programme meets genuine education and training needs.[9]

    c) There are mechanisms to keep the programme updated in consultation with internal and external stakeholders.

    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.

    e) The programme satisfies any validation-related criteria attaching to the applicable awards standards and QQI awards specifications.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

---

[6] 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.

[7] This might be predictive or indirect.

[8] It is essential to involve employers in the programme development and review process when the programme is vocationally or professionally oriented.

[9] 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.

As discussed in the validation document (section 3.7), DBS has conducted research with stakeholders on the proposed principal and embedded programme. DBS drew upon evidence of published research on skills gaps and labour market requirements when considering the programme (sections 1.1 and 3.1). The panel was supplied with sample industry feedback and an indication of graduate jobs. The programme team should include these in the revised documents as it supports the claim that the there is considerable demand for graduates from this programme.

An oversight of similar programmes was provided including how the DBS programme would be distinct from competitor offerings (section 2.7).

Overall the Panel is satisfied that graduates of the principal and embedded programme will have the knowledge, skills and competences required to follow a career in a related field or indeed progress to further study however the panel felt that graduates may not have the development skills necessary to move into a graduate developer role and this should be amended in the document (section 2.7).

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[10].

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 (CEFRL[11]) 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.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

The panel considered the access, transfer and progression arrangements for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics.

The programme team mentioned the provision of a short "bridging" programme for accepted entrants onto the MSc in Business Analytics programme. This was supported by the Panel and should be detailed in the programme document.

---

[10] 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

[11] http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf (accessed 26/09/2015)

In the context of admissions, the Panel found that the specific required IELTS level (6.5) is not provided in the programme document (section 4.2). The Panel sought assurances as to the required level and suggested this be stated for clarity.

The subject of minimum mathematical proficiency requirements was discussed (section 4.2.6). The Panel sought more clarification as to what the minimum proficiency was in terms of stage within a degree.

The panel suggest that engineering be included as a cognate area from a recognised third level institution with regard to entry requirements (section 4.2).

It was confirmed by the programme team that internal students on a study visa would not be able to attend the part-time mode of the programme (section 4.2.8).

The panel proposes as a special condition of validation that:

- The required IELTS level for entry to the programme must be stated in the revised programme document
- That the level and recency of learning in mathematics required for entry must be confirmed in the programme document

It is recommended that:

- The provision and content of a bridging programme event should be included in the programme document

Criterion 5

The programme's written curriculum is well structured and fit-for-purpose
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.
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.
c) Each module and stage is suitably structured and coherently oriented towards the achievement by learners of the intended *programme* learning outcomes.
d) The objectives and purposes of each of the programme's elements are clear to learners and to the provider's staff.
e) The programme is structured and scheduled realistically based on sound educational and training principles[12].
f) The curriculum is comprehensively and systematically documented.
g) The credit allocated to the programme is consistent with the difference between the entry standard and minimum intended programme learning outcomes.
h) The credit allocated to each module is consistent with the difference between the module entry standard and minimum intended module learning outcomes.
i) Elements such as practice placement and work based phases are provided with the same rigour and attentiveness as other elements.
j) The programme duration (expressed in terms of time from initial enrolment to completion) and its fulltime equivalent contact time (expressed in hours) are consistent with the difference between the minimum entry standard and award standard and with the credit allocation. [13]

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

The panel considered the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics as presented in the documents.

A revised Research Methods module was presented to the panel at the start of the day. This descriptor must be included in the revised submission as appropriate.

The Panel and programme team reviewed and discussed Section 5 of the programme documents and associated appendix 5 containing the module detail.

The Panel commented on the lack of detail in the provided teaching timetables (appendix 10). Due to the proposed schedule of modules stopping and starting during the semester and so as to aid the understanding of learners, it would be appropriate to include a week by week timetable for the 24 weeks of taught classes.

---

[12] 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.
[13] If the duration is variable, for example, when advanced entry is available, this should be explained and justified

It was noted that Learners must complete all the taught modules before progressing to the dissertation (section 5.11) and that restrictions were applied as to how many ECTS a learner could fail and be allowed to resit, and pass, before progressing to the dissertation stage.

DBS confirmed industry guest speakers will be sought to ensure learners are provided with a practical understanding of Analytics applied in an industry setting. This has particular importance as the general teaching staff are not industry based. This will help to ensure that the content remains relevant and up to date with industry thinking.

The interconnectedness between modules in terms of overlap, methods, tools and applications was discussed during the panel visit however it was not clear from the document that the teaching team had developed an overall programme approach to these aspects. For example, Python was mentioned as a possible integrative language across modules.

The Panel considered that the order of delivery of some of the modules in semesters 1 and 2 should be reviewed to improve consistency and improve the learner experience (section 5.11).

The panel noted the inconsistencies in the presentation of sample assessments between modules (appendix 6). There was a lack of clarity in terms of format and detail (work count, individual or group, inclusion of an assessment criteria etc).   A schedule of assessments should also be included in the programme documents.

A Research Handbook was provided to the panel as part of DBS' validation submission however a supervisors' handbook was absent. During the panel visit, details of a "Research/Dissertation Supervision Briefing" was supplied to the panel. There is an absence of a lecturer nominated as the module leader for the Research Project.

Based on the discussions during this session the following module specific conditions and recommendations are proposed:

1.   Programming for Data Analysis

Condition: Must include 50% proctored practical exam

2.   Requirements Analysis and Software Engineering

Recommendation: The programme team is encouraged to consider renaming this module (retaining Requirements Analysis and removing Software Engineering) and adjust the content accordingly.

3.   Data Analysis and Machine Learning

Condition: Must rename or adjust content. Must ensure content is appropriate for credits.

Recommendation: Rename to Applied Statistics and Machine Learning

4.   Data Mining

Recommendation: Should make this a more applied module and include predictive analytics.

Recommendation: This module should take place after Applied Statistics and Machine Learning

Condition: Exam must be a proctored practical

5.   Business Intelligence and Visualisation

Recommendation: Consider switching modules between semester one and two.

6. Decision Modelling and Project Management

Condition: Must review in terms of title and content.

Recommendation: This module should be considered in conjunction with other modules with clarity as to how Decision Modelling aligns with Project Management.

Recommendation: Application and evaluation of advanced analytics models for organisational (business) problem solving should be included to reflect the programme title.

7. Financial and Business Analytics

Condition: The focus on financial data should be extended to consider the range of other types of business data that learners should be aware (reflecting the programme title).

Recommendation: Consider the content of this module. The Big Data element may be more appropriate as a topic within an alternative module.

Recommendation: An indication as to the who the panel of guest speakers will be should be included in the module descriptor or elsewhere in the programme document. Furthermore, the timetabling of said speakers should be included (it should be stated if these will take place in module contact time and if learner attendance is compulsory).

8. Business Strategy

Condition: Review content and include content which has a focus on strategies for using data in an organisation such as data strategy, analytic strategy, understanding of new C-suite roles (e.g. CAO / CDO etc.) within the organisation and the governance models being applied (reflecting the programme title).

9. Research Methods

Condition: Must update programme document with new Research Methods module descriptor as presented to the panel.

Condition: Research ethics must be given more prominence in the module.

Recommendation: Review content or/and consider replacement with Applied Research Process for Business Analytics (similar to module on MSc in Data Analytics)

10. Research Project

Recommendation: consider change of name to Applied Project and to be more applied to Business Analytics.

Condition: Must appoint an appropriately qualified module leader.

Furthermore, the panel proposes as special conditions of validation that:

- The structure of the programme in terms of delivery of modules in each semester must be reconsidered to enhance consistency and the student experience.
- There must be coverage of data ethics, privacy, data security, GDPR etc. on the embedded and principal programmes.
- The teaching team must develop an overall programme approach to delivery in terms of methods, tools and applications

- A schedule of assessment submissions for each semester must be created to ensure that there is an appropriate assessment load for the learners
- Sample assessments requirements are supplied for all modules and must be in a standard comprehensive format.
- A week by week timetable (including type of location (lab, lecture room etc)) must be provided to highlight when modules start and stop. Guest lectures should also be clearly highlighted.

Criterion 6

There are sufficient qualified and capable programme staff available to implement the programme as planned

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).

b) The programme has an identified complement of staff[14] (or potential staff) who are available, qualified and capable to provide the specified programme in the context of their existing commitments.

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.

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[15] opportunities[16].

e) There are arrangements for programme staff performance to be reviewed and there are mechanisms for encouraging development and for addressing underperformance.

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.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

The panel reviewed the CVs of the programme team as supplied (appendix 2) regarding the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics. It was noted that a number of staff did not have their employment with DBS annotated.

The panel noted the enthusiastic engagement of the staff met as part of the validation process. The programme team were very open to discussion of potential programme improvements with the Panel.

The panel enquired as to the current volume of work undertaken by the teaching team and in particular the joint programme leads. There was an assurance the IT programme lead would have

---

[14] 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.

[15] 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.

[16] 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.

their teaching timetable reduced which would allow more effort to be focused on programme management.

The panel also sought to establish the other resources available to the programme.

Should DBS manage to attract the maximum volume of learners that it has applied to enrol (450 over three intakes per annum) a significant amount of resources will be required both in teaching and support areas. The scale of the proposed intakes would be a challenge for any institution.

Furthermore, the panel proposes as special conditions of validation that:

- DBS must confirm how recruitment of learners to the programme will directly lead to the allocation of already existing and new resources in terms of programme management, teaching, project supervision, admin and student support with appropriate timescales.
- The programme leader or leaders of the programme must be permanent members of staff with adequate time allowances to lead and manage the programme.
- DBS must reflect on the quality assurance concerns made by the panel regarding the cohort sizes and consider reducing same.
- Greater detail must be provided as to how appropriate project supervisors will be sourced, trained and themselves supervised.
- DBS must confirm the maximum ratio of students to supervisor across all programmes in a given calendar year.

Criterion 7

There are sufficient physical resources to implement the programme as planned

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).

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:
   (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)
   (ii) suitable information technology and resources (including educational technology and any virtual learning environments provided)
   (iii) printed and electronic material (including software) for teaching, learning and assessment
   (iv) suitable specialist equipment (e.g. kitchen, laboratory, workshop, studio) – if applicable
   (v) technical support
   (vi) administrative support
   (vii) company placements/internships – if applicable

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).

d) There is a five-year plan for the programme. It should address
   (i) Planned intake (first five years) and
   (ii) The total costs and income over the five years based on the planned intake.

e) The programme includes controls to ensure entitlement to use the property (including intellectual property, premises, materials and equipment) required.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

The Panel were provided with extensive detail as to physical resources available within DBS currently via section 8 of the programme document for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics. Members of the Panel carried out a tour of the campus physical facilities and the resources available including a large lecture hall (Aud 1), a lab and the DBS Library within the Aungier Street Building.

DBS currently has 73 lecture rooms across five buildings, each with appropriate AV and computing equipment. Study rooms are accessible by the learners. There are currently 13 computer labs in the college. It was mentioned that a considerable amount of teaching on the proposed programmes would take place in computer labs.

The panel were content with the resources viewed.

Criterion 8

The learning environment is consistent with the needs of the programme's learners
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.
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.
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.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

DBS uses Moodle and library engagement as indicators and are developing Learning Analytics. DBS has an impressive Library which offers a range of supports for learners. DBS also has a very active student union and student services department (section 8).

DBS has a dedicated retention officer and the Library also help to identify learners who do not engage with their services within the first few weeks as these learners are more at risk of dropout.

The approach to Student Services were described by the Head of Student Experience.

The Panel, having reviewed the programme document for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics, and engaged with the DBS staff, are of the view that the Learning Environment is consistent with the needs of the programme learners.

Criterion 9

There are sound teaching and learning strategies
a) The teaching strategies support achievement of the intended programme/module learning outcomes.
b) The programme provides authentic learning opportunities to enable learners to achieve the intended programme learning outcomes.
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).
d) Learning is monitored/supervised.
e) Individualised guidance, support[17] and timely formative feedback is regularly provided to enrolled learners as they progress within the programme.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics	
Postgraduate Diploma in Business Analytics	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

The panel considered this criterion for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics.

The panel discussed each module descriptor with the module lecturer (see criterion 5) which included teaching and learning strategies. Conditions and recommendations have been made which also relate to this criterion.

The panel briefly discussed the overarching Teaching Strategies (section 5.6) with the School Programme team. The School outlined their approach to teaching.

The issue of an assessment schedule to ensure that learner workload is balanced is mentioned elsewhere.

The panel is of the view that sound teaching and assessment strategies will be in place subject to the conditions mentioned elsewhere in this document being met.

---

[17] Support and feedback concerns anything material to learning in the context of the programme. For the avoidance of doubt it includes among other things any course-related language, literacy and numeracy support.

Criterion 10

There are sound assessment strategies
a) All assessment is undertaken consistently with *Assessment Guidelines, Conventions and Protocols for Programmes Leading to QQI Awards*[18]
b) The programme's assessment procedures interface effectively with the provider's QQI approved quality assurance procedures.
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.[19]
d) The programme includes formative assessment to support learning.
e) There is a satisfactory written **programme assessment strategy** for the programme as a whole and there are satisfactory module assessment strategies for any of its constituent modules.[20]
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.
g) There are sound procedures for the moderation of summative assessment results.
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.[21]

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Partially	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes partially meet this criterion.

The Panel discussed each module descriptor with the module lecturer (see criterion 5) which included teaching and learning strategies for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics. Conditions and recommendations have been made which also relate to this criterion which include the provision of an assessment schedule.

The absence of formative assessment was raised (section 5.10) and the Panel did suggest this as an area that the programme team might want to revisit with a view to identifying students who are struggling with the early parts of the programme.

The issue of the format and clarity of sample assessments has been made earlier in his document.

The Validation Panel agree that the programme's assessment procedures are consistent with the assessment procedures in the School Quality Assurance Handbook.

It is recommended that:

- The provision of formative assessments is considered within the programme.

---

[18] See the section on transitional arrangements.
[19] This assumes the minimum intended programme/module learning outcomes are consistent with the applicable awards standards.
[20] 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.
[21] 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).

Criterion 11

Learners enrolled on the programme are well informed, guided and cared for
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.   b) Information is provided about learner supports that are available to learners enrolled on the programme.   c) Specific information is provided to learners enrolled on the programme about any programme-specific appeals and complaints procedures.   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.   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.   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.   g) The programme provides supports for enrolled learners who have special education and training needs.   h) The programme makes reasonable accommodations for learners with disabilities[22].   i) If the programme aims to enrol international students it complies with the *Code of Practice for Provision of Programmes to International Students*[23] 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.   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).

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

The MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics were both considered under this criterion.

DBS provided information on the Programme Management including Learning Supports and the Student Experience Department. The panel queried the resourcing of some of these aspects which is addressed elsewhere in this document.

The panel were also supplied with sample programme timetables (with insufficient detail) and student programme handbooks.

[22] For more information on making reasonable accommodations see www.AHEAD.ie and QQI's Policies, Actions and Procedures for Access, Transfer and Progression for Learners (QQI, restated 2015).
[23] See Code of Practice for Provision of Programmes to International Students (QQI, 2015)

DBS outlined the learner induction process that learners go through at the start of their programme and there was mention of bridging however insufficient detail was provided either in writing prior to the event or during the meeting (due to time constraints). A recommendation to include this information is mentioned elsewhere in this document.

DBS outlined how it provided additional maths classes for students who may require support in this area. 100 student mentors had been recruited across all programme and in several nationalities. It was highlighted that the Student Experience Team maintain a high level of activity throughout the year to support learners.

Numerous clubs and societies, run by learners and supported by DBS, are available to learners. Examples include FinTech, International Students, and Indoor Cricket.

Provision for learners with disabilities is well documented.

The Validation Panel having reviewed the programme document and supporting QQI documentation, is of the view that Learners enrolled on the programme are well informed, guided and cared for.

Criterion 12

The programme is well managed

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.

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-the-purpose of identifying which centres are suited to provide the programme and which are not.

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.

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.

e) Quality assurance[24] is intrinsic to the programme's maintenance arrangements and addresses all aspects highlighted by the validation criteria.

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.

g) The programme operation and management arrangements are coherently documented and suitable.

h) There are sound procedures for interface with QQI certification.

Satisfactory (yes, no, partially)	Comment
Master of Science in Business Analytics **Postgraduate Diploma in Business Analytics**	
Yes	The panel has evaluated the programmes having regard to the criterion and sub-criteria and recommends that QQI can be satisfied that the programmes meet this criterion.

The Panel had access to DBS' Quality Assurance Handbook.

The panel raised a concern about the resourcing of the teaching and management of the proposed MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics which is addressed under criterion 6.

The panel having reviewed the programme document and supporting QQI documentation, is of the view that the programme will be well managed subject to appropriate resourcing.

---

[24] See also QQI's Policy on Monitoring (QQI, 2014)

Part 2B Overall recommendations to QQI

Principal programme: Master of Science in Business Analytics

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 (**minor**) things to be done to a programme that almost fully meets the validation criteria before QQI makes a determination);[25]
	Not satisfactory.

Embedded programme: Postgraduate Diploma in Business Analytics

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 (**minor**) things to be done to a programme that almost fully meets the validation criteria before QQI makes a determination);[26]
	Not satisfactory.

---

[25] Normally an application that fails to meet the criteria in any of its aspects will be considered as not satisfactory. Nevertheless, so as to ensure that the validation process will not be implemented unreasonably, if an independent evaluation finds that a programme virtually meets the validation criteria but needs some minor modifications, the independent evaluation could conclude "Satisfactory subject to recommended special conditions" where the special conditions prescribe the defects that require to be corrected.

[26] Normally an application that fails to meet the criteria in any of its aspects will be considered as not satisfactory. Nevertheless, so as to ensure that the validation process will not be implemented unreasonably, if an independent evaluation finds that a programme virtually meets the validation criteria but needs some minor modifications, the independent evaluation could conclude "Satisfactory subject to recommended special conditions" where the special conditions prescribe the defects that require to be corrected.

Reasons for the overall recommendation

Having read the documents as provided and engaged in a site visit, the proposal for the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics was not satisfactory as presented by the panel.

There were a number of criteria that the panel adjudged had not been fully met. Criterion 5 is notable as the area in which requires the most focus however there are other criterion which have also not been fully met.

The content, order and assessment of the modules within the programme require reflection by the programme team. The resourcing of the programme at a maximum of 450 leaners in one calendar year also needs greater consideration and clarification by DBS as a whole.

Summary of recommended special conditions of validation

- The correct ISCED code must be stated in the revised programme document for both the MSc in Business Analytics and embedded Postgraduate Diploma in Business Analytics
- The programme learning outcomes for the embedded award and principal award must be reviewed to ensure that ethics (research ethics and ethics related to data) and teamwork are included in the embedded award MILPOs. Following the updates of the MIPLOS and any required amendments to MIMLOs and module content, the mapping exercise for the MIMLOS to the MIPLOs must be updated.
- The maximum possible enrolment per annum on the MSc in Business Analytics must reflect 450 rather than the current 150 in the documents. For example, sections 1.2.2 "Proposed first year (i.e. new learner) enrolment over five year" and 3.13 "Five-year plan for the proposed programme" of the programme document.
- The required IELTS level for entry to the programme must be stated in the revised programme document
- See criterion 5 for specific module conditions and recommendations
- That the level and recency of learning in mathematics required for entry must be confirmed in the programme document
- The structure of the programme in terms of delivery of modules in each semester must be reconsidered to enhance consistency and the student experience.
- There must be coverage of data ethics, privacy, data security, GDPR etc. on the embedded and principal programmes.
- The teaching team must develop an overall programme approach to delivery in terms of methods, tools and applications
- A schedule of assessment submissions for each semester must be created to ensure that there is an appropriate assessment load for the learners
- Sample assessments requirements are supplied for all modules and must be in a standard comprehensive format.
- A week by week timetable (including type of location (lab, lecture room etc)) must be provided to highlight when modules start and stop. Guest lectures should also be clearly highlighted.
- DBS must confirm how recruitment of learners to the programme will directly lead to the allocation of already existing and new resources in terms of programme

management, teaching, project supervision, admin and student support with appropriate timescales.
- The programme leader or leaders of the programme must be permanent members of staff with adequate time allowances to lead and manage the programme.
- DBS must reflect on the quality assurance concerns made by the panel regarding the cohort sizes and consider reducing same.
- Greater detail must be provided as to how appropriate project supervisors will be sourced, trained and themselves supervised.
- DBS must confirm the maximum ratio of students to supervisor across all programmes in a given calendar year.

Summary of recommendations to the provider

- The provision of formative assessments is considered within the programme.
- The provision and content of a bridging programme event should be included in the programme document
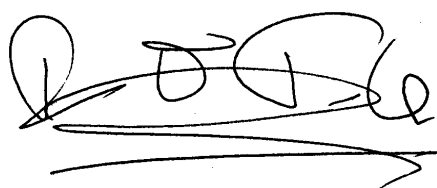
Declarations of Evaluators' Interests

Prior to the panel event taking place Mr Mark Byrne declared that he had fulfilled the role as Head of School at DBS (Ending in 2013) and subsequently undertook one semester of teaching at DBS' request in Spring 2017 on the MBA programme.

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

Panel chairperson: Dr. Thomas O'Toole,   Date: 19/03/2019

                        Head of School (Dean) of Business

Signed:

Addendum

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.