QQI

Dearbhú Cáilíochta agus Cáilíochtaí Éireann
Quality and Qualifications Ireland

CERTIFICATE OF VALIDATION

New validation

Validation Process: **New**

Provider Name	CCT College Dublin
Date of Validation	09-Sep-21

	Code	Title	Award	Exit
Principal Programme	PG24480	Master of Science in Data Analytics	Master of Science (Masters Degree at NFQ Level 9) 9M21531 90 credits	N/A
Embedded Programme	PG24482	Postgraduate Diploma in Science in Data Analytics	Postgraduate Diploma in Science (Postgraduate Diploma at NFQ Level 9) 9M21533 60 credits	Yes
Embedded Programme	PG24483	Certificate in Statistics for Data Analysis	Certificate (Minor Award at NFQ Level 9) 9H21806 10 credits	No
Embedded Programme	PG24484	Certificate in Data Preparation and Visualisation	Certificate (Minor Award at NFQ Level 9) 9H21807 10 credits	No
Embedded Programme	PG24485	Certificate in Machine Learning for Data Analysis	Certificate (Minor Award at NFQ Level 9) 9H21808 10 credits	No

	First Intake	Last Intake
Enrolment Interval	01-Sep-21	31-Aug-26

Principal Programme

	Full Time	Part Time		
Maximum Intakes per Annum:	2	2	**Delivery Mode: full-time / part-time**	Full Time, Part Time
Minimum Learners per Intake:	15	15		
Maximum Learners per Intake:	120	80		
Duration (months)	12	24		

Target Learner Groups

This programme is intended for graduates of level 8 NFQ major awards in ICT/Computing (or equivalent), Business, Science or Engineering, domestic and international, aspiring to progress their academic experience to post graduate level, specifically in the area of Data Analytics. Learners who present undergraduate degrees, along with relevant experience in the area of Data Analytics and/or professional certification, may also be considered (RPEL route).

Those seeking to develop their knowledge, skills and competence in the area of Data Analytics and its underlying technologies of machine learning utilising artificial intelligence neural networks. This programme is specifically designed for individuals with numerate, technical and or analytical ability aspiring to work, or working, in roles that involve data analysis or the interpretation of data to inform business management and decision-making.

Highly interested and motivated individuals will avail of the opportunity to study what is the leading edge of data analytics dealing with the emerging technologies of Machine Learning and Artificial Intelligence being used to interact with the worlds data.

Learners will be provided with the opportunity to assimilate knowledge within an industry focused learning environment. This focus is maintained through the use of practical sessions in labs and workshops supported by on campus and online interactive learning. Graduates will be qualified to assume industry roles and/or to further advance their education.

Brief Synopsis of the Programmes

This is a level 9 taught Masters in Data Analytics with an exit award of Postgraduate Diploma in Data Analytics and a series of 10 ECTs minor award Certificates.

The MSc in Data Analytics (90 ECTS) is designed for full-time, part-time, domestic and international, level 8 (Irish NQF) major award-holders or equivalent in ICT/computing disciplines seeking to develop their knowledge, skills and competence in the area of Data Analytics.

The programme is a post graduate computing degree designed to produce graduates with the attributes required of Data specialists today and the ability to continue to develop knowledge, skill and competence to remain competitive and employable in an ever-advancing sector. The programme consists of 60 credits of taught module work and 30 credits of an applied project. Learners who decide to leave the programme, after completing the taught elements only, may be entitled to receive the embedded exit award of a Post Graduate Diploma in Science in Data Analytics. Graduates will be qualified to assume advanced industry roles and/or to further their education at level 10.

The programme utilises a carefully designed blended learning programme schedule with modules focussed on advanced Data Analytics topics. The design and development of modules within this programme were informed by industry consultation (appendix 2). The programme consists of 6 x 10 ECTS modules and a 30 ECTS supervised applied Data Analytics project. 60 ECTS of the programme comprise VLE, classroom and laboratory learning as well as interactive workshops. This is carried out within an industry focused environment. Industry-initiated real-world problems will be provided by our industry supporters and used as the context for planning and designing assessment solutions, as well as being an aid for problem solving sessions. As a blended learning programme, students would also be required to attend a number of face-to-face sessions on campus, these may be distributed across lectures, labs and workshop sessions, integrating practical and theoretical learning.

Subject areas include, programming, statistics, technology enabled data analysis using machine learning and artificial intelligence, data visualisation, research and ethical studies pertaining to the field as well as developing multiple transversal skills throughout the programme.

Summative assessment is a blend of integrated assessment and module specific assessment utilising both group and individual work, while formative assessment is pipelined into module delivery and feedback, so as not to add to the assessment burden of students.

The incorporated learning from all modules aims to produce industry ready graduates and learners who are prepared for academic progression in this fast-developing discipline.
Students who successfully complete all the taught elements and wish to exit the programme at that stage may be eligible for the embedded award of Post Graduate Diploma in Science in Data Analytics.

To achieve an MSc award, the programme continues with a 30 ECTS supervised Data Analytics solution development group project allowing students to apply their knowledge from the 60 ECTS taught modules elements to a specialised applied Data Analytics problem. The problem to be researched will be industry-initiated real world problems and will be provided by our industry contacts and used as the context for planning, designing, building and testing potential analytical solutions.
The project culminates in a peer presentation and solution demonstration. There will be an opportunity for students to present a poster presentation of their work to industry representatives to informally evaluate and discuss solutions with learners, further enhancing the professionalism of the learner and engaging industry in the programme. This module incorporates learning from all modules in the taught components and aims to ready learners for industry and/or academic Data Analytics / Science work.

To achieve an MSc award, the programme continues with a 30 ECTS supervised Data Analytics solution development group project allowing students to apply their knowledge from the 60 ECTS taught modules elements to a specialised applied Data Analytics problem. The problem to be researched will be industry-initiated real world problems and will be provided by our industry contacts and used as the context for planning, designing, building and testing potential analytical solutions.

The project culminates in a peer presentation and solution demonstration. There will be an opportunity for students to present a poster presentation of their work to industry representatives to informally evaluate and discuss solutions with learners, further enhancing the professionalism of the learner and engaging industry in the programme. This module incorporates learning from all modules in the taught components and aims to ready learners for industry and/or academic Data Analytics / Science work.

Teaching and Learning Modes	1. Directed Learning 2. Group Discussions 3. Group Discussions/Interactions 4. Laboratory / Studio 5. Lectures / Classes 6. One-on-One Sessions 7. Other 8. Practical/workshop/Laboratories/studio sessions 9. Self Directed Learning 10. Tutorials 11. Webinars 12. Workshops

Approved Countries	Ireland

Physical Resource Requirements

The programme requires the physical and virtual campus resources of CCT.
To fully engage in this programme students will be required to have access to the internet, a laptop or desktop PC with webcam, microphone and speakers or headset.
The minimum recommended specification at the time of writing is windows OS with a basic RAM Memory of 8GB DDR4 RAM with a basic processor Intel i5(7th Gen and above) with a dedicated graphics card(or equivalent graphics option). This specification will be published to potential learners and kept under review over the life of the programme.

Staff Profiles	Qualifications and Experience	WTE
Lecturer	Academic and Professional: PhD desirable and a minimum of an MSc is required. However, in exceptional cases, NFQ Level 8 in Data Analytics, Computer Science, Software Development, Software Engineering or equivalent may be acceptable when combined with significant industrial experience. Pedagogical: Teaching experience is desired. Completion of postgraduate CPD/Certificate in Teaching and Learning or similar preferred. Experience in blended learning delivery required. In absence of experience, training will be mandatory and will be provided.	2
Librarian	Qualified library professional	0.25
Programme Leader	Member of academic faculty with responsibility for the quality assurance, academic and operational management of the programme.	0.25
Student Services	Qualifications and experience required is determined by the specific aspect of student services provision including pastoral support, counselling, careers services, international student support, disability and additional learning needs support, social supports, academic support, and general student guidance and support services. Qualifications and experience as per CCT job descriptions and recruitment policies.	1
Technical Support	Qualified IT professional with excellent communication skills and experience of providing support and guidance in the resolution of IT issues faced by non-expert IT users.	0.5

Approved Centres	Centre	Minimum Number of Learners per Intake per Centre	Maximum Number of Learners per Intake per Centre
	38484N CCT College Dublin	15	200

Additional Locations	Location Name	Minimum Enrolment per Annum	Maximum Enrolment per Annum
	N/A		

Learner Teacher Ratios	Learning Activity	Ratio
	Lectures	1:60
	Practical	1:30
	Supervision	1:30
	Labs	1:30
	Webinars / seminars	1:60
	Class discussions	1:60

Programme being replaced by this Programme	Prog Code	Programme Title	Validated
	N/A		

Embedded Programme

Code	Title	Award	Exit
PG24482	Postgraduate Diploma in Science in Data Analytics	Postgraduate Diploma in Science (Postgraduate Diploma at NFQ Level 9) 9M21533 60 credits	Yes

	Full Time	Part Time		Delivery Mode: full-time / part-time	Full Time, Part Time
Maximum Intakes per Annum:	1	1			
Minimum Learners per Intake:	1	1			
Maximum Learners per Intake:	1	1			
Duration (months)	12	24			

Target Learner Groups

Learners are not directly recruited onto this programme. This is an exit award only.

Brief Synopsis of the Programmes

The Postgraduate Diploma comprises of the 60 ECTs of taught modules of the MSc. It is available as an exit award only and learners will not be directly recruited to this.

The programme is a specialist, post graduate computing diploma designed to produce graduates with the attributes required of Data specialists today and the ability to continue to develop knowledge, skill and competence to remain competitive and employable in an ever-advancing sector. The programme consists of 60 credits of taught module work. Learners after completing the taught elements only, may be entitled to receive the embedded exit award of a Post Graduate Diploma in Science in Data Analytics.

Teaching and Learning Modes	1. Directed Learning
	2. E-learning (directed)
	3. E-learning (self-directed)
	4. Group Discussions
	5. Group Discussions/Interactions
	6. Laboratory / Studio
	7. Lectures / Classes
	8. One-on-One Sessions
	9. Practical Sessions
	10. Practical/workshop/Laboratories/studio sessions
	11. Self Directed Learning
	12. Tutorials
	13. Tutorials/One on one supported learning
	14. Webinars
	15. Workshops

Approved Countries	Ireland

Physical Resource Requirements

As per parent programme

Staff Profiles	Qualifications and Experience	WTE
As per parent programme	See parent programme information.	0

Approved Centres	Centre	Minimum Number of Learners per Intake per Centre	Maximum Number of Learners per Intake per Centre
	38484N CCT College Dublin	1	1

Additional Locations	Location Name	Minimum Enrolment per Annum	Maximum Enrolment per Annum
	N/A		

Learner Teacher Ratios	Learning Activity	Ratio
	As per parent programme	0

Programme being replaced by this Programme	Prog Code	Programme Title	Validated
	N/A		

Embedded Programme

Code	Title	Award	Exit
PG24483	Certificate in Statistics for Data Analysis	Certificate (Minor Award at NFQ Level 9) 9H21806 10 credits	No

	Full Time	Part Time	Delivery Mode: full-time / part-time	Part Time
Maximum Intakes per Annum:	0	3		
Minimum Learners per Intake:	0	4		
Maximum Learners per Intake:	0	40		
Duration (months)	N/A	2.5		

Target Learner Groups

This minor award is designed in response to industry feedback for the provision of accredited professional development opportunities for those working in IT roles.

This programme is specifically designed for individuals with numerate, technical and or analytical ability, to a level 8 standard, who are seeking to develop their knowledge, skills and competence in the area of Statistics and Data Analytics.

Applicants will normally be graduates of level 8 NFQ major awards in ICT/Computing (or equivalent), or Business, Science or Engineering, domestic and international, seeking professional development and academic enhancement at a postgraduate level, specifically in the field of Statistics and Data Analytics.

Applicants with relevant industry experience including those who present undergraduate degrees in a non-cognate disciplines and/or professional certification, may be considered (RPEL route).

Brief Synopsis of the Programmes

The certificate is designed to develop learners' knowledge, skill and competence in:
1. Numerical and statistical tools used to describe and summarise data.
2. The utility and application of inferential statistical methods.
3. The purpose and limitations of regression analysis and modelling.
4. The laws of probability and their application to data analysis.
5. Software tools used for the analysis of business data

Teaching and Learning Modes	1. Directed Learning 2. E-learning (directed) 3. E-learning (self-directed) 4. Group Discussions 5. Group Discussions/Interactions 6. Laboratory / Studio 7. Lectures / Classes 8. One-on-One Sessions 9. Practical Sessions 10. Practical/workshop/Laboratories/studio sessions 11. Tutorials 12. Webinars 13. Workshops

Approved Countries	Ireland

Physical Resource Requirements

The programme requires the physical and virtual campus resources of CCT.
To fully engage in this programme students will be required to have access to the internet, a laptop or desktop PC with webcam, microphone and speakers or headset.
The minimum recommended specification at the time of writing is windows OS with a basic RAM Memory of 8GB DDR4 RAM with a basic processor Intel i5(7th Gen and above) with a dedicated graphics card(or equivalent graphics option). This specification will be published to potential learners and kept under review over the life of the programme.

Staff Profiles	Qualifications and Experience	WTE
As per parent programme	See parent programme details	0

Approved Centres	Centre	Minimum Number of Learners per Intake per Centre	Maximum Number of Learners per Intake per Centre
	38484N CCT College Dublin	12	120

Additional Locations	Location Name	Minimum Enrolment per Annum	Maximum Enrolment per Annum
	N/A		

Learner Teacher Ratios	Learning Activity	Ratio
	As per parent programme	0

Programme being replaced by this Programme	Prog Code	Programme Title	Validated
	N/A		

Embedded Programme

Code	Title	Award	Exit
PG24484	Certificate in Data Preparation and Visualisation	Certificate (Minor Award at NFQ Level 9) 9H21807 10 credits	No

	Full Time	Part Time	Delivery Mode: full-time / part-time	Part Time
Maximum Intakes per Annum:	0	3		
Minimum Learners per Intake:	0	4		
Maximum Learners per Intake:	0	40		
Duration (months)	N/A	2.5		

Target Learner Groups

This minor award designed in response to industry feedback for the provision of accredited professional development opportunities for those working in IT roles.

This programme is specifically designed for individuals with numerate, technical and or analytical ability, to a level 8 standard, seeking to develop their knowledge, skills and competence in the area of Data Preparation and Visualisation.

Applicants will normally be graduates of level 8 NFQ major awards in ICT/Computing (or equivalent), or Business, Science or Engineering, domestic and international, seeking professional development and academic enhancement at a postgraduate level.

Applicants with relevant industry experience including those who present undergraduate degrees in a non-cognate discipline and/or professional certification, may be considered (RPEL route).

Highly interested and motivated individuals will avail of the opportunity to study what is the fundamental underpinning of data analytics presentation.

Learners will be provided with the opportunity to assimilate knowledge within labs and workshops supported by on campus and online interactive learning. Graduates will be qualified to further advance their education or career.

Brief Synopsis of the Programmes

The certificate is designed to develop learners' knowledge, skill and competence in:
1. Basic programming principles and the importance of exploratory data analysis as an essential first step in the data analytical process.
2. Methods of encoding data for specific machine learning algorithms. The value of data visualisation as a means of offering rapid insights into large quantities of data.
3. The theory, concepts, techniques and processes of data representation and visualisation.
4. The types of data visualisation and their associated cognitive load.
5. The current range of software tools available for data visualisation.

Teaching and Learning Modes	1. Directed Learning 2. E-learning (directed) 3. E-learning (self-directed) 4. Group Discussions 5. Group Discussions/Interactions 6. Laboratory / Studio 7. Lectures / Classes 8. One-on-One Sessions 9. Practical Sessions 10. Practical/workshop/Laboratories/studio sessions 11. Self Directed Learning 12. Tutorials 13. Tutorials/One on one supported learning 14. Webinars 15. Workshops

Approved Countries	Ireland

Physical Resource Requirements

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To fully engage in this programme students will be required to have access to the internet, a laptop or desktop PC with webcam, microphone and speakers or headset.
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Staff Profiles	Qualifications and Experience	WTE
As per parent programme	See parent programme information	0

Approved Centres	Centre	Minimum Number of Learners per Intake per Centre	Maximum Number of Learners per Intake per Centre
	38484N CCT College Dublin	12	120

Additional Locations	Location Name	Minimum Enrolment per Annum	Maximum Enrolment per Annum
	N/A		

Learner Teacher Ratios	Learning Activity	Ratio
	As per parent programme	0

Programme being replaced by this Programme	Prog Code	Programme Title	Validated
	N/A		

Embedded Programme

Code	Title	Award	Exit
PG24485	Certificate in Machine Learning for Data Analysis	Certificate (Minor Award at NFQ Level 9) 9H21808 10 credits	No

	Full Time	Part Time	Delivery Mode: full-time / part-time	Part Time
Maximum Intakes per Annum:	0	3		
Minimum Learners per Intake:	0	4		
Maximum Learners per Intake:	0	40		
Duration (months)	N/A	2.5		

Target Learner Groups

This minor award designed in response to industry feedback for the provision of accredited professional development opportunities for those working in IT roles.

This programme is specifically designed for individuals with numerate, technical and or analytical ability, to a level 8 standard, seeking to develop their knowledge, skills and competence in the area of Machine Learning.

Applicants will normally be graduates of level 8 NFQ major awards in ICT/Computing (or equivalent), or Business, Science or Engineering, domestic and international, seeking professional development and academic enhancement at a postgraduate level.

Applicants with relevant industry experience including those who present undergraduate degrees in a non-cognate discipline and/or professional certification, may be considered (RPEL route).

Highly interested and motivated individuals will avail of the opportunity to study what is an exciting technology that is leading the way in digital transformation for businesses through the study of what is the fundamental underpinning of data analytics and emerging technologies of Machine Learning.

Learners will be provided with the opportunity to assimilate knowledge within labs and workshops supported by on campus and online interactive learning.

Brief Synopsis of the Programmes

The certificate is designed to develop learners' knowledge, skill and competence in:
1. The different categories of machine learning techniques.
2. The different stages of the Knowledge Discovery life cycle.
3. The major Supervised, Unsupervised and Semi-Supervised learning techniques
4. The application, optimisation and validation of various machine learning techniques

Teaching and Learning Modes	1. Directed Learning 2. E-learning (directed) 3. E-learning (self-directed) 4. Group Discussions 5. Group Discussions/Interactions 6. Lectures / Classes 7. One-on-One Sessions 8. Practical Sessions 9. Self Directed Learning 10. Tutorials 11. Webinars 12. Workshops

Approved Countries	Ireland

Physical Resource Requirements

The programme requires the physical and virtual campus resources of CCT.
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Staff Profiles	Qualifications and Experience	WTE
As per parent programme	Please see parent programme information	0

Approved Centres	Centre	Minimum Number of Learners per Intake per Centre	Maximum Number of Learners per Intake per Centre
	38484N CCT College Dublin	12	120

Additional Locations	Location Name	Minimum Enrolment per Annum	Maximum Enrolment per Annum
	N/A		

Learner Teacher Ratios	Learning Activity	Ratio
	As per parent programme	0

Programme being replaced by this Programme	Prog Code	Programme Title	Validated
	N/A		

Conditions of Validation of the Programmes Covered by this Certificate of Validation

Part 1: Statutory Conditions of Validation

The statutory (section 45(3) of the 2012 Act) conditions of validation are that the provider of the programme shall:

1. Co-operate with and assist QQI in the performance of QQI's functions in so far as those functions relate to the functions of the provider,
2. Establish procedures which are fair and consistent for the assessment of enrolled learners to ensure the standards of knowledge, skill or competence determined by QQI under section 49 (1) are acquired, and where appropriate, demonstrated, by enrolled learners,
3. Continue to comply with section 65 of the 2012 Act in respect of arrangements for the protection of enrolled learners, if applicable, and
4. Provide to QQI such information as QQI may from time to time require for the purposes of the performance of its functions, including information in respect of completion rates.

Part 2 Conditions of Validation Established by QQI Under section 45(4)(b) of the 2012 Act)

Part 2.1 Condition of Validation Concerning a Change in the QQI Award or Award Standard

1. Where QQI changes an award title, an award specification or an award standard that a programme depends upon, the provider shall not enrol any further learners on the affected programmes unless informed otherwise in writing by QQI (e.g. by the issue of a revised certificate of validation). The programme is considered validated for learners already enrolled on the affected programme.

Part 2.2 Condition of Validation Concerning the Duration of Enrolment

1.The duration of enrolment is the interval during which learners may be enrolled on the validated programme.

Validation is determined by QQI for a specified number of years of enrolment appropriate to the particular programme as indicated on the certificate on validation subject to unit 9.2.1. It is a condition of validation that the programme does not enrol any new learners outside this interval. A typical duration would be five years.

If a provider wishes to continue to enrol learners to the programme beyond this interval the provider must arrange in good time for it to be validated again by QQI, or exceptionally the provider may apply for extension of the duration of enrolment (unit (14)). In this context the provider may apply for validation of the programme from first principles or, alternatively, the provider may avail of the process for revalidation (unit (13)) by QQI.

Part 2.3 General Condition of Validation

The provider of the programme shall:

1. Ensure that the programme as implemented does not differ in a material way from the programme as validated; differing in a material way is defined as differing in any aspect of the programme or its implementation that was material to QQI's validation criteria.
2. Ensure that the programme is provided with the appropriate staff and physical resources as validated.
3. Implement in respect of the programme its written quality assurance procedures (as approved by QQI).
4. Make no significant change to the programme without the prior approval of QQI. (See unit (8)).
5. Unless otherwise agreed by QQI in writting, start implementing the programme as validated and enrol learners within 18 months of validation.
6. Continue in respect of the validated programme to comply with section 56 of the 2012 Act in respect of procedures for access, transfer and progression.
7. Implement the programme and procedures for assessment of learners in accordance with the Approved Programme Schedule and notify QQI in writing of any amendments to this arising from changes to the programme; see unit (9).
8. When advertising and promoting the programme and awards, use the programme title as validated, and the correct QQI award title(s), award type(s) and award class(es) indicating the level of the award(s) on the National Framework of Qualifications.

9. Adhere to QQI regulations and procedures for certfication.

10. Notify QQI in writing without delay of: a. Any material change to the programme; a. Anything that impacts on the integrity or reputation of the programme or the corresponding QQI awards; b. Anything that infringes the conditions of validation; or c. Anything that would be likely to cause QQI to consider reviewing the validation.

11. Notify QQI in writing to determine the implications for the provider's validated programmes, where the provider is likely to, or planning to, merge (amalgamate) with another entity or to acquire, or be acquired by, another entity (see unit (12.5)) .

12. Report to QQI, when required or requested, on its implementation of the programme and compliance with the conditions of validation.

Part 2.4 General Condition of Validation Arising from Specialised Validation Policy and Criteria

1.

Part 2.5 Special Conditions of Validation