

CERTIFICATE OF VALIDATION

Provider Name	National College of Ireland
Date of Validation	13-Jun-19

	First intake	Last intake
Enrolment Interval	Sep-19	Aug-24

	Code	Title	Award	Duration (Months)	Annual Intakes
Principal Programme	PG24074	Bachelor of Science (Honours) in Data Science	Bachelor of Science (Honours) (Major Award at NFQ Level 8) 8M20730 240 credits	4 years	2
Embedded Programmes	PG24075	Bachelor of Science in Data Science	Bachelor of Science (Major Award at NFQ Level 7) 7M20731 180 Credits	3 years	2
	PG24076	Higher Certificate in Science in Data Science	HET L6 Major Award pending (Major Award at NFQ Level 6) HETMAJ6 120 Credits	2 years	2
	PG24078	Certificate in Introductory Data Science	Certificate (Minor Award at NFQ Level 6) 6H20732 10 Credits	15 Weeks	1

Principal Programme

5 Year Plan: Planned total enrolment i.e. aggregated across all intakes and all approved centres

	Year 1	Year 2	Year 3	Year 4	Year 5
Minimum Intake into first year	30	30	30	30	30
Maximum Intake into first year	100	130	210	260	260

Target Learner groups

The Bachelor of Science (Hons) in Data Science is aimed at full time and part time students. There are a number of different categories of potential students that have been identified as suitable candidates for this course: Students who have their Leaving Certificate complete and who wish to pursue a career as a Data Scientist. Part-time students who are currently working in IT or science sectors and don't have the relevant academic experience and are looking for a progression path in their current working environment or are looking to upskill and move to a new job in Data Science

Brief Synopsis of the programmes

This programme is a 4-year Bachelor of Science (Hons) degree aimed at Leaving Certificate graduates or mature applicants who wish to follow a career in data science. The programme will run both on part-time and full-time basis in order to cater to the different types of students. The students will have to attend lectures and tutorials in the classroom or online over the academic year, as well as to study independently. Students will study for 4 stages taking modules that cover topics such as Mathematics, Statistics, Programming, Problem Solving, Computing Systems, Databases, Machine Learning, Data Visualisation, Modelling and Optimisation, Business Intelligence, Artificial Intelligence, Data Security and Ethics. An important component of the programme will be the 6 months Work Placement in stage 3, as well as the capstone Data Science Project in stage 4. The programme leads to a level 8 academic award Bachelor of Science (Hons) in Data Science awarded by QQI. Graduates of this programme may pursue further education or

	employment in data science.		
Delivery mode: full-time / part-time	Full-time and part-time		
Teaching and Learning Modes	Blended learning combining different strategies, including traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning. Synchronous Online delivery may also be used in some cases.		
Approved countries	Ireland		
Physical resource requirements	The programme requires appropriate learning spaces to facilitate the teaching, learning & assessment strategy of the programme. Learning spaces should accommodate traditional classrooms, spaces for collaborative learning and access to appropriate technologies as required by individual module curriculum (e.g., Word, Excel, PowerPoint, R/RStudio, SPSS, or similar products). Students must also have access to appropriate personal study space. Access to appropriate recreation and dining spaces are also required.		
Staff Profiles	Qualifications and Experience		WTE
	Lecturers with a Masters or PhD level qualification in computing or a related discipline with academic experience delivering modules in ICT, Maths and Statistics, Programming, and Data Analytics at level 8.		4
	Programme Director who is responsible for the academic management of the programme and may also be a lecturer on the programme. The programme director will have at least a Masters or PhD qualification in computing or a related discipline.		1
	Programme Co-ordinators with experience in relationship management and programme coordination.		1
Approved Centres	Centre	Minimum Number of learners per intake per Centre	Maximum Number of learners per intake per Centre
	National College of Ireland, IFSC Campus	15	130
Learner Teacher Ratios	Learning Activity		Ratio
	Tutorials/Labs		1:25
	Lectures		1:100
Programme being replaced by this programme	Prog Code	Programme Title	Validated To Close
	NA	N/A	

Embedded Programme

Code	Title	Award	Duration (Months)	Annual Intakes
PG24075	Bachelor of Science in Data Science	Bachelor of Science 7M20731 180 credits	3 years	2

5 Year Plan: Planned total enrolment i.e. aggregated across all intakes and all approved centres

	Year 1	Year 2	Year 3	Year 4	Year 5
Minimum Intake into first year	30	30	30	30	30
Maximum Intake into first year	100	130	210	260	260

Target Learner groups

The Bachelor of Science (Ordinary) in Data Science is an exit award only and is aimed at full time and part time students who may opt to leave the Bachelor of Science (Hons) in Data Science early. There are a number of different categories of potential students that have been identified as suitable candidates for this course:

- Students who have their Leaving Certificate complete and who wish to pursue a career as a Data Scientist.
- Part-time students who are currently working in IT or science sectors and don't have the relevant academic experience and are looking for a progression path in their current working environment or are looking to up-skill and move to a new job in Data Science

Brief Synopsis of the programmes

The Bachelor of Science (Ord) in Data Science is an exit award only, and is aimed at full time and part time students who may opt to leave the BSc Hons in Data Science early.

Delivery mode: full-time / part-time

Full-time and part-time

Teaching and Learning Modes

Blended learning combining different strategies, including traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning. Synchronous Online delivery may also be used in some cases.

Approved countries where enrolled learners will be based

Ireland

Physical resource requirements

The programme requires appropriate learning spaces to facilitate the teaching, learning & assessment strategy of the programme. Learning spaces should accommodate traditional classrooms, spaces for collaborative learning and access to appropriate technologies as required by individual module curriculum (e.g., Word, Excel, PowerPoint, R/Rstudio, SPSS, or similar products).

Staff Profiles

Qualifications and Experience	WTE
Lecturers with a Masters or PhD level qualification in computing or a related discipline with academic experience delivering modules in ICT, Maths and Statistics, Programming, and Data Analytics at level 8.	4
Programme Director who is responsible for the academic management of the programme and may also be a lecturer on the programme. The programme director will have at least a Masters or PhD qualification in computing or a related discipline.	1
Programme Co-ordinators with experience in relationship management and programme coordination.	1

Approved Centres

Centre	Minimum Number of learners per intake per Centre	Maxium Number of learners per intake per Centre
National College of Ireland, IFSC Campus	130	15

Learner Teacher Ratios

Learning Activity	Ratio
Tutorials/Labs	1:25
Lectures	1:100

Programme being replaced by this programme

Prog Code	Programme Title	Validated	To Close
NA	N/A		

Embedded Programme

Code	Title	Award	Duration (Months)	Annual Intakes
PG24076	Higher Certificate in Science in Data Science	HET L6 Major Award pending HETMAJ6 120 credits	2 years	2

5 Year Plan: Planned total enrolment i.e. aggregated across all intakes and all approved centres

	Year 1	Year 2	Year 3	Year 4	Year 5
Minimum Intake into first year	30	30	30	30	30
Maximum Intake into first year	60	90	120	140	120

Target Learner groups

The Higher Certificate in Science in Data Science is aimed at full time and part time learners. There are a number of different categories of potential learners that have been identified as suitable candidates for this course:

Learners who have their Leaving Certificate complete and who seek an introduction to Data Science with a view to pursuing a career or further education in the field.

Learners who are currently working in IT or science sectors and don't have the relevant academic experience and are looking for a progression path in their current working environment or are looking to upskill and move to a new job in Data Science.

Brief Synopsis of the programmes

This programme is a 2-year Higher Certificate in Science degree aimed at Leaving Certificate graduates or mature applicants who wish to follow a career in data science. The programme will run both on part-time and full-time basis in order to cater to the different types of students. The students will have to attend lectures and tutorials in the classroom or online over the academic year, as well as to study independently. Students will study for 2 stages taking modules that cover topics such as Mathematics, Statistics, Programming, Problem Solving, Computing Systems, Databases, Data Visualisation & Machine Learning. The programme leads to a level 6 Higher Certificate in Science in Data Science awarded by QQI. Graduates of this programme may pursue further education or employment in the mining, modelling, management, analysis and visualisation of data.

Delivery mode: full-time / part-time

Full-time and part-time

Teaching and Learning Modes

Blended learning combining different strategies, including traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning.

Synchronous Online delivery may also be used in some cases.

Approved countries where enrolled learners will be based

Ireland

Physical resource requirements

The programme requires appropriate learning spaces to facilitate the teaching, learning & assessment strategy of the programme. Learning spaces should accommodate traditional classrooms, spaces for collaborative learning and access to appropriate technologies as required by individual module curriculum (e.g., Word, Excel, PowerPoint, R/RStudio, SPSS, or similar

products). Students must also have access to appropriate personal study space. Access to appropriate recreation and dining spaces are also required.

Staff Profiles

Qualifications and Experience	WTE
Lecturers with a Masters or PhD level qualification in computing or a related discipline with academic experience delivering modules in ICT, Maths and Statistics, Programming, and Data Analytics at level 8.	4
Programme Director who is responsible for the academic management of the programme and may also be a lecturer on the programme. The programme director will have at least a Masters or PhD qualification in computing or a related discipline.	1
Programme Co-ordinators with experience in relationship management and programme coordination.	1

Approved Centres

Centre	Minimum Number of learners per intake per Centre	Maxium Number of learners per intake per Centre
National College of Ireland, IFSC Campus	15	80

Learner Teacher Ratios

Learning Activity	Ratio
Tutorials/Labs	1:25
Lectures	1:100

Programme being replaced by this programme

Prog Code	Programme Title	Validated	To Close
NA	N/A		

Embedded Programme

Code	Title	Award	Duration (Months)	Annual Intakes
PG24078	Certificate in Introductory Data Science	Certificate 6H20732 10 credits	15 Weeks	1

5 Year Plan: Planned total enrolment i.e. aggregated across all intakes and all approved centres

	Year 1	Year 2	Year 3	Year 4	Year 5
Minimum Intake into first year	15	15	15	15	15
Maximum Intake into first year	20	30	40	50	60

Target Learner groups

The Certificate in Introductory Data Science is aimed at Learners who have completed Level 5 (5M0529) and Level 6 (6M0691) qualifications in software development (or equivalent) at Further education and Training Colleges with a view to pursuing further education in the field. The programme may also serve as an exit award for learners on the Higher Certificate in Science in Data Science, BSc Honours in Data Science or Certificate in Data Science should the successfully complete the module Introduction to Data Science and not complete their intended award.

Brief Synopsis of the programmes

This programme is a 1-semester Certificate programme at Level 6 aimed at students attending Further Education and Training colleges. The learners will have to attend classroom lectures and tutorials, as well as to study independently. Learners will study introduction to data science in this programme. The programme leads to a 10 credit Special Purpose Award at Level 6 in Introductory Data Science awarded by QQI. Graduates may progress directly to year 2 of the BSc. In Data Science or Higher Certificate in Data Science at NCI.

Delivery mode: full-time / part-time

Full-time

Teaching and Learning Modes

Blended learning combining different strategies, including traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning. Synchronous Online delivery may also be used in some cases.

Approved countries where enrolled learners will be based

Ireland

Physical resource requirements

The programme requires appropriate learning spaces to facilitate the teaching, learning & assessment strategy of the programme. Learning spaces should accommodate traditional classrooms, spaces for collaborative learning and access to appropriate technologies as required by the module curriculum (e.g., Word, Excel, PowerPoint, R/RStudio, SPSS, or similar products). Students must also have access to appropriate personal study space. Access to appropriate recreation and dining spaces are also required. While this programme will primarily be delivered at NCI's IFSC campus, occasionally, depending on demand, the programme may be delivered in the campus of a college of further education itself. In this instance, NCI will exercise due diligence in ensuring that all necessary physical resources are available in that campus.

Staff Profiles

Qualifications and Experience	WTE
Lecturer with a Masters or PhD level qualification in computing or a related discipline with academic experience delivering modules in ICT, Maths and Statistics, Programming, and Data Analytics at Level 8.	1
Programme Director who is responsible for the academic management of the programme and may also be a lecturer on the programme. The programme director will have at least a Masters or PhD qualification in computing or a related discipline.	1
Programme Co-ordinator with experience in relationship management and programme coordination	1

Approved Centres

Centre	Minimum Number of learners per intake per Centre	Maximum Number of learners per intake per Centre
National College of Ireland, IFSC Campus	15	60

Learner Teacher Ratios

Learning Activity	Ratio
Tutorials/Labs	1:25
Lectures	1:100

Programme being replaced by this programme

Prog Code	Programme Title	Validated	To Close
NA	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 writing, 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 certification.

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

N/A

Approved Programme Schedules

Name of Provider:		National College of Ireland													
Programme Title		Bachelor of Science (Hons) in Data Science													
Award Title		Bachelor of Science (Hons) in Data Science													
Stage Exit Award Title³		N/A													
Modes of Delivery (FT/PT):		FT													
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning													
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code							
Major	8		1			60	Sept 2019								
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)				
			Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstratio	Proctored written exam %	
Computational Thinking		1	M		5	125	24		101		100				
Discrete Mathematics		1	M		5	125	60		65		40			60	
The Computing Industry		1	M		5	125	24		101		100				
Problem Solving & Programming Concepts		1	M		5	125	36		89		100				
Introduction to Data Science		1	M		10	250	48		202		30	70			
Programming I		2	M		5	125	48		77		50		50		
Introduction to Data Modelling and Databases		2	M		10	250	48		202		40			60	
Statistics I		2	M		10	250	60		190		100				
Computing Systems		2	M		5	125	36		89		40			60	
Special Regulations (Up to 280 characters)															

Name of Provider:		National College of Ireland												
Programme Title		Bachelor of Science (Hons) in Data Science												
Award Title		Bachelor of Science (Hons) in Data Science												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		FT												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning												
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8		2			60	September 2019							
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
			Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Independent Learning	Hours of learning effort	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration
Data Visualisation		1	M		5	125	36		89		100			
Programming II		1	M		5	125	48		77		50		50	
Advanced Databases		1	M		10	250	48		202		40			60
Statistics II		1	M		10	250	48		202		50			50
Linear Algebra		2	M		5	125	36		89		40			60
IT Project Management		2	M		5	125	36		89		40			60
Programming III		2	M		10	250	60		190		50		50	
Data Mining and Machine Learning		2	M		10	250	48		202		40	60		
Special Regulations (Up to 280 characters)														

Name of Provider:		National College of Ireland														
Programme Title		Bachelor of Science (Hons) in Data Science														
Award Title		Bachelor of Science (Hons) in Data Science														
Stage Exit Award Title³		Bachelor of Science (Ord) in Data Science														
Modes of Delivery (FT/PT):		FT														
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning														
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code								
Major	8		3			60	September 2019									
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)					
			Status	NFQ Level¹ where specified	Credit Units	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration	Proctored written exam %		
					ECTS											
Data Architecture	1	M		5	125	36		89			60		40			
Scalable Data Analytics	1	M		5	125	36		89		50			50			
Advanced Machine Learning	1	M		10	250	48		202			50	50				
Data Warehousing & Business Intelligence	1	E		10	250	48		202			40		60			
Artificial Intelligence	1	E		10	250	48		202			40		60			
Work Placement	2	E		30	750				750	100						
Academic Internship	2	E		30	750	504		246			100					
Special Regulations (Up to 280 characters)																

Name of Provider:		National College of Ireland												
Programme Title		Bachelor of Science (Hons) in Data Science												
Award Title		Bachelor of Science (Hons) in Data Science												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		FT												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning												
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8	6	Award	8	6	60	September 2019							
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
			Status	NFQ Level¹ where specified	Credit Units	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration	Proctored written exam %
					ECTS									
Data Science Project		1, 2	M	8	20	500	48		452		100			
Systems Modelling, Simulation & Optimization for Analytics		1	E	8	10	250	48		202		60		40	
Strategic Data Analysis		1	E	8	10	250	48		202	30			70	
Neural Networks & Prescriptive Analytics		1	E	8	10	250	48		202		70		30	
Text Analytics		1	E	8	10	250	48		202		100			
Data Governance, Security & Ethics		2	M	8	10	250	48		202	40			60	
IoT Real Time Analytics		2	E	8	10	250	48		202	50	50			
Time Series & Financial Analytics		2	E	8	10	250	48		202	40			60	
Healthcare Analytics		2	E	8	10	250	48		202	40	60			
Special Regulations (Up to 280 characters)														

Name of Provider:		National College of Ireland													
Programme Title		Bachelor of Science (Hons) in Data Science													
Award Title		Bachelor of Science (Hons) in Data Science													
Stage Exit Award Title3		N/A													
Modes of Delivery (FT/PT):		PT													
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning													
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code							
Major	8		1			60	Sept 2019								
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1, Semester 2 or Semester 3)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)				
			Status	NFQ Level¹ where specified	Credit Units	Total Hours	Class (or equiv) Contact	Directed e-learning	Independent Learning	Hours of learning effort	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstratio	Proctored written exam %
					ECTS										
Computational Thinking		1	M		5	125	24		101		100				
The Computing Industry		1	M		5	125	24		101		100				
Problem Solving & Programming Concepts		1	M		5	125	36		89		100				
Discrete Mathematics		1	M		5	125	60		65		40			60	
Programming I		2	M		5	125	48		77		50		50		
Introduction to Data Modelling and Databases		2	M		10	250	48		202		40			60	
Computing Systems		2	M		5	125	36		89		40			60	
Introduction to Data Science		3	M		10	250	48		202		30	70			
Statistics I		3	M		10	250	60		190		100				
Special Regulations (Up to 280 characters)															

Name of Provider:		National College of Ireland												
Programme Title		Bachelor of Science (Hons) in Data Science												
Award Title		Bachelor of Science (Hons) in Data Science												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		PT												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning												
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8		2			60	September 2019							
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1, Semester 2 or Semester 3)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
			Status	NFQ Level¹ where specified	Credit Units	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration	Proctored written exam %
					ECTS									
Programming II		1	M		5	125	48		77		50		50	
Statistics II		1	M		10	250	48		202		50			50
Data Visualisation		1	M		5	125	36		89		100			
Advanced Databases		2	M		10	250	48		202		40			60
Linear Algebra		2	M		5	125	36		89		40			60
IT Project Management		2	M		5	125	36		89		40			60
Programming III		3	M		10	250	60		190		50		50	
Data Mining and Machine Learning		3	M		10	250	48		202		40	60		
Special Regulations (Up to 280 characters)														

Name of Provider:		National College of Ireland														
Programme Title		Bachelor of Science (Hons) in Data Science														
Award Title		Bachelor of Science (Hons) in Data Science														
Stage Exit Award Title³		Bachelor of Science (Ord) in Data Science														
Modes of Delivery (FT/PT):		PT														
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning														
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code								
Major	8		3			60	September 2019									
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1, Semester 2 or Semester 3)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)					
			Status	NFQ Level¹ where specified		Credit Units	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration	Proctored written exam %	
ECTS																
Data Architecture		1	M		5	125	36		89			60		40		
Scalable Data Analytics		1	M		5	125	36		89		50			50		
Data Warehousing & Business Intelligence		1	E		10	250	48		65			40		60		
Artificial Intelligence		1	E		10	250	48		202			40		60		
Advanced Machine Learning		2	M		10	250	48		202			50	50			
Work Placement		2, 3	E		30	750				750	100					
Academic Internship		2, 3	E		30	750	504		246			100				
Special Regulations (Up to 280 characters)																

Name of Provider:		National College of Ireland												
Programme Title		Bachelor of Science (Hons) in Data Science												
Award Title		Bachelor of Science (Hons) in Data Science												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		PT												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning												
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8	6	Award	8	6	60	September 2019							
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
			Status	NFQ Level¹ where specified	Credit Units	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration	Proctored written exam %
				ECTS										
Data Science Project		1, 2, 3	M	8	20	500	48		452			100		
Systems Modelling, Simulation & Optimization for Analytics		1	E	8	10	250	48		202			60	40	
Strategic Data Analysis		1	E	8	10	250	48		202		30		70	
Neural Networks & Prescriptive Analytics		1	E	8	10	250	48		202			70	30	
Text Analytics		1	E	8	10	250	48		202			100		
Data Governance, Security & Ethics		2	M	8	10	250	48		202		40		60	
IoT Real Time Analytics		2	E	8	10	250	48		202		50	50		
Time Series & Financial Analytics		2	E	8	10	250	48		202		40		60	
Healthcare Analytics		2	E	8	10	250	48		202		40	60		
Special Regulations (Up to 280 characters)														

Approved Programme Schedules

Name of Provider:		National College of Ireland											
Programme Title		Higher Certificate in Data Science											
Award Title		Higher Certificate in Data Science											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		FT											
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning											
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code					
Major	8		1			60	Sept 2019						
Module Title (Up to 70 characters including spaces)	Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
		Status	NFQ Level¹ where specified		Credit Units	Total Hours	Class (or equi) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Practical demonstration %
				ECTS									
Computational Thinking	1	M		5	125	24		101		100			
Discrete Mathematics	1	M		5	125	60		65		40			60
The Computing Industry	1	M		5	125	24		101		100			
Problem Solving & Programming Concepts	1	M		5	125	36		89		100			
Introduction to Data Science	1	M		10	250	48		202		30	70		
Programming I	2	M		5	125	48		77		50		50	
Introduction to Data Modelling and Databases	2	M		10	250	48		202		40			60
Statistics I	2	M		10	250	60		190		100			
Computing Systems	2	M		5	125	36		89		40			60
Special Regulations (Up to 280 characters)													

Name of Provider:		National College of Ireland											
Programme Title		Higher Certificate in Data Science											
Award Title		Higher Certificate in Data Science											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		FT											
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning											
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code					
Major	8	6	Award	8	6	60	September 2019						
Module Title (Up to 70 characters including spaces)	Semester no where applicable. (Semester 1 or Semester2)	Module	Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)				
				Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %
Data Visualisation	1	M	6	5	125	36		89		100			
Programming II	1	M	6	5	125	48		77		50	50		
Advanced Databases	1	M	6	10	250	48		202		40			60
Statistics II	1	M	6	10	250	48		202		50			50
Linear Algebra	2	M	6	5	125	36		89		40			60
IT Project Management	2	M	6	5	125	36		89		40			60
Data Mining and Machine Learning	2	M	6	10	250	48		202		40	60		
Programming III	2	E	6	10	250	60		190		50	50		
Data Analysis Project	2	E	6	10	250	60		190			100		
Special Regulations (Up to 280 characters)													

Name of Provider:		National College of Ireland												
Programme Title		Higher Certificate in Data Science												
Award Title		Higher Certificate in Data Science												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		PT												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning												
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8		1			60	Sept 2019							
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1, Semester 2 or Semester 3)	Module		Credit Number⁵	Total Student Effort Module (hours)				Allocation Of Marks (from the module assessment strategy)				
			Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	n % practical demonstratio	Proctored % written exam
Computational Thinking		1	M		5	125	24		101		100			
The Computing Industry		1	M		5	125	24		101		100			
Problem Solving & Programming Concepts		1	M		5	125	36		89		100			
Discrete Mathematics		1	M		5	125	60		65		40			60
Programming I		2	M		5	125	48		77		50		50	
Introduction to Data Modelling and Databases		2	M		10	250	48		202		40			60
Computing Systems		2	M		5	125	36		89		40			60
Introduction to Data Science		3	M		10	250	48		202		30	70		
Statistics I		3	M		10	250	60		190		100			
Special Regulations (Up to 280 characters)														

Name of Provider:		National College of Ireland											
Programme Title		Higher Certificate in Data Science											
Award Title		Higher Certificate in Data Science											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		PT											
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning											
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code					
Major	8	6	Award	8	6	60	September 2019						
Module Title (Up to 70 characters including spaces)	Semester no where applicable. (Semester 1, Semester 2 or Semester 3)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
		Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	% practical demonstration	Proctored written exam %
Programming II	1	M	6	5	125	48		77		50		50	
Statistics II	1	M	6	10	250	48		202		50			50
Data Visualisation	1	M	7	5	125	36		89		100			
Advanced Databases	2	M	6	10	250	48		202		40			60
Linear Algebra	2	M	6	5	125	36		89		40			60
IT Project Management	2	M	6	5	125	36		89		40			60
Data Mining and Machine Learning	3	M	6	10	250	48		202		40	60		
Programming III	3	E	6	10	250	60		190		50		50	
Data Analysis Project	3	E	6	10	250	60		190			100		
Special Regulations (Up to 280 characters)													

Approved Programme Schedules

Name of Provider:		National College of Ireland													
Programme Title		Certificate in Introductory Data Science													
Award Title		Certificate in Introductory Data Science													
Stage Exit Award Title³		N/A													
Modes of Delivery (FT/PT):		FT/PT													
Teaching and learning modalities		Direct contact via lectures and demonstrations, Blended e-learning													
Award Class⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level²	Stage EQF Level²	Stage Credit (ECTS)	Date Effective	ISCED Subject code							
Special Purpose	6	5	Award	6	5	10	Sept 2019								
Module Title (Up to 70 characters including spaces)		Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)				
			Status	NFQ Level¹ where specified	Credit Units ECTS	Total Hours	Class (or equival) Contact Hours	Directed e-learning	Independent Learning	Hours of Work-based learning effort	C.A. %	Supervised Project %	practical demonstration %	Proctored %	Proctored written exam %
Introduction to Data Science		1	M	6	10	250	48		202		30	70			
Special Regulations (Up to 280 characters)															