

CERTIFICATE OF VALIDATION



QQI

Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

ReValidation

Provider Name	National College of Ireland
Date of Validation	11-Jun-20

	Code	Title	Award	Duration (Full Time)	Duration (Part Time)	Exit
Principal Programme	PG24356	Higher Diploma in Science in Computing	Higher Diploma in Science (Major Award at NFQ Level 8) 8M20959 60 credits	1 year	2 years	
Embedded Programmes	PG24357	Certificate in Science in Computing	Certificate (Minor Award at NFQ Level 8) 8H20962 20 Credits		12 weeks	No
			First intake	Last intake		
Enrolment Interval			Sep-20	Aug-25		

	Full Time	Part Time
Maximum Intakes per annum:	2	2
Minimum Learners per Intake:	15	15
Maximum Learners per Intake:	20	170

Principal Programme

Target Learner groups

The College has a diverse learner profile. Approximately 50% of NCI's learners are part-time learners and study at its IFSC campus or at one of its locations in its Off-Campus Network (part-time learners only).

Brief Synopsis of the programmes

This programme is a 1-year Level 8 Higher Diploma aimed at Level 8 graduates or mature applicants who wish to follow a career in computing. The programme will run both in part-time and full-time mode 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 1 stage taking modules that cover topics such as Software Development, Introduction to Databases, Object Oriented Software Engineering, Computer Architecture Operating Systems and Networks, and modules in the chosen area of specialisations such as Algorithms and Advanced Programming, Cloud Application Development, IoT Application Development, Security Principles and Secure Programming, Artificial Intelligence, Blockchain Application Development and Advanced Client Side Development.. An important component of the programme will be the Project module. The programme leads to a NFQ Level 8 Higher Diploma in Science in Computing awarded by QQI. Graduates of this programme may pursue further education or employment in the field of computing.

Delivery mode: full-time / part-time

Full Time and Part Time and Online.

Teaching and Learning Modes

The teaching and learning approaches combine different strategies, including traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning.

Approved countries

Ireland

Physical resource requirements

The programme requires appropriate learning spaces to facilitate the teaching, learning and 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., development environments, cloud infrastructure, 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 PhD or Masters level qualification in computing or a related discipline with academic experience delivering modules in ICT and Programming at level 8 on NFQ.	2
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 per intake per Centre	Maximum per intake per Centre
NCI Main Campus	15	190

Learner Teacher Ratios

Learning Activity	Ratio
Tutorials/Labs	1:25
Lectures	1:60

Programme being replaced by this programme

Prog Code	Programme Title	Validated	To Close
PG22523	Higher Diploma in Science in Computing	20-Jul-16	

Embedded Programme

Code	Title	Award	Duration (Full Time)	Duration (Part Time)	Exit?
PG24357	Certificate in Science in Computing	Certificate 8H20962 20 credits		12 weeks	No

	Full Time	Part Time
Maximum Intakes per annum:		3
Minimum Learners per Intake:		15
Maximum Learners per Intake:		170

Target Learner groups

The Certificate in Science in Computing is aimed at students that wish to engage in level 8/9 major award in Computing but who may lack a firm knowledge of required prerequisites for Computing. The College has a diverse learner profile. Approximately 50% of NCI's learners are part-time learners and study at its IFSC campus or at one of its locations in its Off-Campus Network (part-time learners only). Over 50 nationalities are represented, mainly from the immigrant communities in the Greater Dublin area.

Brief Synopsis of the programmes

This programme is a 12 week Level 8 certificate aimed at learners who have little or no computing background and lack a firm knowledge in key areas of Computing necessary to engage in Masters/Higher Diploma programmes. The programme will run both on part-time and full-time basis in order to cater to the different types of students. Face to face students will have to attend lectures and tutorials in the classroom over the 12 weeks, as well as to study independently. Online/Blended students will need to attend live classes and complete set tutorials and directed activities between classes. Students will take modules that cover topics such as Software Development and Introduction to Databases, and modules in the chosen area of specialisations such as Computer Architecture Operating Systems and Networks, and Statistics. The programme leads to a Level 8 academic award Certificate in Science in Computing awarded by QQI. Graduates of this programme may pursue further education or employment in the field of computing.

Delivery mode: full-time / part-time

Full Time and Part Time and Part Time Online/Blended.

Teaching and Learning Modes

The course will be delivered via 2 methods:

Face to Face

- The teaching Includes traditional classroom lectures, tutorials and seminars, flipped classroom, problem and project-based learning, team work and work-based learning.

Online/Blended

The teaching includes both synchronous (live) digital activities as well as structured tutorials and directed activities on the College's learning management system.

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., development environments, cloud infrastructure, 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 PhD or Masters level qualification in computing or a related discipline with academic experience delivering modules in ICT and Programming at level 8 on NFQ.	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 per intake per Centre	Maximum per intake per Centre
NCI Main Campus	15	170

Learner Teacher Ratios

Learning Activity	Ratio
Tutorials/Labs/Directed Activities	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. n/a

Part 2.5 Special Conditions of Validation

1. n/a

Approved programme schedule(s)

Name of Provider:		National College of Ireland											
Programme Title		Higher Diploma in Science in Computing											
Award Title		Higher Diploma in Science in Computing											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		Full-Time, Part-time, Online and Blended											
Teaching and learning modalities		Direct contact via lectures and demonstrations, Online 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 Stage	8	6	60	Sept 2020	0613					
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	Independent Learning	Hours of Independent Learning	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration %
				ECTS									
Software Development	1	M	8	10	250	48		202		50		50	
Object Oriented Software Engineering	1	M	8	5	125	36		89		100			
Introduction to Databases	1	M	8	5	125	36		89		40			60
Web Design and Client Side Scripting	1	M	8	5	125	36		89		100			
Computer Architecture Operating Systems and Networks	2	M	8	5	125	36		89		50			50
Data Structures	2	GE1	8	10	250	60		190		50			50
Algorithms and Advanced Programming	2	GE1	8	5	125	48		77		50			50
Distributed Systems	2	GE1; GE6	8	5	125	36		89		60			40
Cloud Application Development	2	GE2; GE7	8	10	250	60		190		100			
Edge and Fog Computing	2	GE2	8	5	125	48		77		40			60
DevOpsSec	2	GE2;	8	5	125	36		89		100			

Name of Provider:		National College of Ireland												
Programme Title		Higher Diploma in Science in Computing												
Award Title		Higher Diploma in Science in Computing												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		Full-Time, Part-time, Online and Blended												
Teaching and learning modalities		Direct contact via lectures and demonstrations, Online Learning												
Award Class ⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level ²	Stage EQF Level ²	Stage Credit (ECTS)	Date Effective	ISCED Subject code						
Major	8	6	Award Stage	8	6	60	Sept 2020	0613						
Module Title (Up to 70 characters including spaces)	Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number ⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)				
		Status	NFQ Level ¹ where specified	Credit Units ECTS	Total Hours	Class (or equiv) Contact Hours	Directed e-learning	Independent Learning	Hours of Independent learning effort	Work-based learning effort	C.A. %	Supervised Project %	Proctored practical demonstration %	Proctored written exam %
		GE7												
<i>IoT Fundamentals and Development</i>	2	GE3	8	10	250	60		190		40				60
<i>IoT Application Development</i>	2	GE3	8	5	125	48		77		100				
<i>Fundamentals of Mobile Communication</i>	2	GE3	8	5	125	36		89		40				60
<i>Security Principles and Secure Programming</i>	2	GE4	8	10	250	60		190		50				50
<i>Network and Web Penetration Testing</i>	2	GE4	8	5	125	48		77		50				50
<i>Digital Forensics</i>	2	GE4	8	5	125	36		89		50				50
<i>Artificial Intelligence</i>	2	GE5	8	10	250	60		190		40				60
<i>Machine Learning Fundamentals</i>	2	GE5	8	5	125	48		77		60				40
<i>Statistics</i>	2	GE5	8	5	125	36		89		50				50
<i>Blockchain Foundations</i>	2	GE6	8	10	250	60		190		40				60
<i>Blockchain Application Development</i>	2	GE6	8	5	125	48		77		50				50
<i>Advanced Client Side Development</i>	2	GE7	8	5	125	48		77		100				

Name of Provider:		National College of Ireland											
Programme Title		Higher Diploma in Science in Computing											
Award Title		Higher Diploma in Science in Computing											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		Full-Time, Part-time, Online and Blended											
Teaching and learning modalities		Direct contact via lectures and demonstrations, Online Learning											
Award Class ⁴	Award NFQ level	Award EQF Level	Stage (1, 2, 3, 4, ..., or Award Stage):	Stage NFQ Level ²	Stage EQF Level ²	Stage Credit (ECTS)	Date Effective	ISCED Subject code					
Major	8	6	Award Stage	8	6	60	Sept 2020	0613					
Module Title (Up to 70 characters including spaces)	Semester no where applicable. (Semester 1 or Semester2)	Module		Credit Number ⁵	Total Student Effort Module (hours)					Allocation Of Marks (from the module assessment strategy)			
		Status	NFQ Level ¹ 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 %	Proctored practical demonstration %	Proctored written exam %
<i>Domain Skills for Computing</i>	2	E	8	0	125	36		89		100			
<i>Project</i>	3	M	8	10	250	48		202		100			
<p>Special Regulations: Students must choose a Group Elective (i.e. either GE1, GE2, GE3, GE4, GE5, GE6 or GE7). The Domain Skills for Computing module is an elective non-credit bearing module that is available to all streams/specialisations.</p> <p>Group Elective 1 – Software Development (Modules: Data Structures, Algorithms and Advanced Programming, and Distributed Systems) OR</p> <p>Group Elective 2 – Cloud Computing (Modules: Cloud Application Development, Edge and Fog Computing, and DevOpsSec) OR</p> <p>Group Elective 3 – Internet of Things (Modules: IoT Fundamentals and Development, IoT Application Development, and Fundamentals of Mobile Communication) OR</p> <p>Group Elective 4 – Cyber Security (Modules: Security Principles and Secure Programming, Network and Web Penetration Testing, and Digital Forensics) OR</p> <p>Group Elective 5 – AI/ML (Modules: Artificial Intelligence, Machine Learning Fundamentals, and Statistics) OR</p> <p>Group Elective 6 – Blockchain (Modules: Blockchain Foundations, Blockchain Application Development, and Distributed Systems) OR</p> <p>Group Elective 7 – Web Development (Modules: Cloud Application Development, Advanced Client Side Development, and DevOpsSec)</p>													

Approved programme schedule(s)

Name of Provider:		National College of Ireland											
Programme Title		Certificate in Science in Computing											
Award Title		Certificate in Science in Computing											
Stage Exit Award Title³		N/A											
Modes of Delivery (FT/PT):		Part-Time											
Teaching and learning modalities		Direct contact via lectures and demonstrations											
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		
Minor	8	6	Award Stage		8		6		20	Sept 2020	0613		
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 %	% practical demonstration
Software Development	1	M	8	10	250	48		202		50		50	
Computer Architecture Operating Systems and Networks	1	E	8	5	125	36		89		50			50
Introduction to Databases	1	M	8	5	125	36		89		40			60
Statistics	1	E	8	5	125	36		89		50			50
Special Regulations: Students will have to do an elective module from Electives C (EC), either Statistics or Computer Architecture Operating Systems and Networks													

Name of Provider:		National College of Ireland												
Programme Title		Certificate in Science in Computing												
Award Title		Certificate in Science in Computing												
Stage Exit Award Title³		N/A												
Modes of Delivery (FT/PT):		Online delivery												
Teaching and learning modalities		Online synchronous contact via lectures and demonstrations in virtual classroom, asynchronous contact via directed activities												
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						
Minor	8	6	Award Stage	8	6	20	Sept 2020	0613						
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 %	Proctored practical demonstration %	Proctored written exam %
Software Development		1	M	8	10	250	36	12	202		50		50	
Computer Architecture Operating Systems and Networks		1	E	8	5	125	24	12	89		50			50
Introduction to Databases		1	M	8	5	125	24	12	89		40			60
Statistics		1	E	8	5	125	24	12	89		50			50
Special Regulations: Students will have to do an elective module from Electives C (EC), either Statistics or Computer Architecture Operating Systems and Networks														