![QQI logo] Quality and Qualifications Ireland
Dearbhú Cáilíochta agus Cáilíochtaí Éireann

CERTIFICATE OF VALIDATION

Provider name	National College of Ireland
Date of validation	12 January 2017

	First intake	Last intake
Enrolment interval	January 2017	August 2021

	Code	Title	Award	Duration	Annual intakes
Principal programme	PG22523	Higher Diploma in Science in Computing	Higher Diploma in Science	2 years	Two (NCI campus)

One (IBM Campus) |

Principal Programme

	Name	Maximum number of learners	Minimum number of learners
Approved centre	National College of Ireland, Mayor Street, IFSC, Dublin 1	250	25
	IBM Campus, Damastown Drive, Mulhuddart, Co Dublin	60	30

Proposed first year (i.e. new learner) enrolment over five years					
	Year 1	Year 2	Year 3	Year 4	Year 5
Minimum intake into first year	40	55	55	55	55
Maximum intake into first year	110	160	160	160	160

Detail any articulation arrangements involving advanced entry	Maximum number of learners involved	Stage of entry
Normal RPL processes		

Target learner groups	IBM Staff Members

Total number of learners per intake (Maximum and Minimum)	Max	Min
	60	30
Approved countries for provision (i.e. where enrolled learners will be based)	Republic of Ireland	
Delivery mode: Full-time/part-time	Part-time	
List the teaching and learning modes[1]	Face-to-face lectures Elearning Blended	
Does the blend of modalities predominantly involve remote e-learning (Yes/No)	No	
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 will be provided on a part-time basis for staff of IBM in Mulhuddart, Dublin. It will be offered as a staff development opportunity and funded under the Springboard programme.	

Summary of staffing requirements (the details are provided in the module descriptors)	WTE[2]	Qualifications and experience
	7	Staff must have a minimum of a Level 9 qualification in the field in which they teach. Where appropriate in certain modules or elements of modules professional qualifications or industry experience may replace this requirement.

Outline the physical resource requirements (the details are provided in the module descriptors)	Learning will take place in a classroom environment with access to IT resources. Learners will have access to library resources, both physical and electronic. Module materials will be placed on Moodle, the College's virtual learning environment. Lecturers and labs will take place in computer rooms or rooms equipped for BYOD learning.

Outline specifications for the ratio of learners to teaching staff	Staff to learner ratio	Learning activity type
	1 - 60	Lectures
	1 – 25	Laboratory sessions

Programmes being replaced		
Code	**Title**	**Estimated closure date**

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[1] Defined later in this document.

[2] WTE is the whole-time equivalent number. The number 1 indicates a fulltime person fully dedicated to the programme.

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 of Validation Arising from Specialised Validation Policy and Criteria

1. N/A

Part 2.5 Special Condition of Validation

1. N/A

Approved Programme Schedule – Part Time

Table 1 shows the Approved Programme Schedule Part Time delivery of the Higher Diploma in Science in Computing with the three new specialisations/streams included.

Table 1 Approved Programme Schedule – Part Time

Name of Provider			National College of Ireland									
Programme Title (i.e. named award)			Higher Diploma in Science in Computing									
Award Title (HETAC named award)			Higher Diploma in Science in Computing									
Stage Exit Award Title												
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc)			Part Time, Blended, OC, ACCS									

Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective		ISCED Subject Code			
Major	8	6	Award	8		60	September 2017					

Ref	Module Title	Semester	Module Status (M/E)	NQF Level	ECTS Credit Number	Total Student Effort			Allocation of Marks			
						Total Hours	Contact Hours	Independent Learning	CA %	Project %	Final %	Total %
	Object Oriented Software Engineering	2	M	8	5	125	36	89	0%	60%	40%	100%
	Software Development	1	M	8	10	250	48	202	50%	0%	50%	100%
	Web Design	1	M	8	5	125	36	89	40%	60%	0%	100%
	Computer Architecture Operating Systems and Networks	1	M	8	5	125	36	89	50%	0%	50%	100%
	Introduction to Databases	2	M	8	5	125	36	89	50%	0%	50%	100%
	Cloud Gaming	*3*	*GE1*	*8*	*5*	*125*	*36*	*89*		*40%*	*60%*	*100%*

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Award Title (HETAC named award)	Higher Diploma in Science in Computing									
Stage Exit Award Title										
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc)	Part Time, Blended, OC, ACCS									

Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective	ISCED Subject Code		
Major	8	6	Award	8		60	September 2017			

Ref	Module Title	Semester	Module Status (M/E)	NQF Level	ECTS Credit Number	Total Student Effort			Allocation of Marks			
						Total Hours	Contact Hours	Independent Learning	CA %	Project %	Final %	Total %
	Graphics and Animation for Devices	*2*	*GE1*	*8*	*5*	*125*	*36*	*89*	*60%*	*40%*	*0%*	*100%*
	Mobile Game Development	*3*	*GE1*	*8*	*5*	*125*	*36*	*89*	*40%*	*60%*	*0%*	*100%*
	Server Side Development	*3*	*GE1A*	*8*	*5*	*125*	*36*	*89*	*0%*	*60%*	*40%*	*100%*
	Fundamentals of Mobile Communication	3	GE2	8	5	125	36	89	40%	0%	60%	100%
	Multimedia and Mobile Application Development	2	GE2	8	5	125	36	89	60%	40%	0%	100%
	Advanced Mobile Application Development	3	GE2	8	5	125	36	89	60%	40%	0%	100%
	Server Side Development	3	GE2A	8	5	125	36	89	0%	60%	40%	100%
	Advanced Programming	*3*	*GE3*	*8*	*5*	*125*	*48*	*77*	*50%*	*0%*	*50%*	*100%*
	Data Structures and Algorithms	*2*	*GE3*	*8*	*5*	*125*	*48*	*77*	*50%*	*0%*	*50%*	*100%*
	Web Services and API Development	*3*	*GE3*	*8*	*5*	*125*	*36*	*89*	*75%*	*0%*	*25%*	*100%*
	Server Side Development	*3*	*GE3A*	*8*	*5*	*125*	*36*	*89*	*0%*	*60%*	*40%*	*100%*

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Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc)			Part Time, Blended, OC, ACCS						

Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective		ISCED Subject Code
Major	8	6	Award	8		60	September 2017		

Ref	Module Title	Semester	Module		ECTS Credit Number	Total Student Effort			Allocation of Marks			
			Status (M/E)	NQF Level		Total Hours	Contact Hours	Independent Learning	CA %	Project %	Final %	Total %
	Data Storage and Management	3	GE4	8	5	125	36	89	50%	50%	0%	100%
	Infrastructure Management	3	GE4	8	5	125	36	89	35%	35%	30%	100%
	Virtualisation	2	GE4	8	5	125	36	89	35%	35%	30%	100%
	Practical Operating Systems	3	GE4A	8	5	125	36	89	50%	0%	50%	100%
	Cloud Application Development	*2*	*GE5*	*8*	*5*	*125*	*36*	*89*	*0%*	*100%*	*0%*	*100%*
	Cloud Computing in Business	*3*	*GE5*	*8*	*5*	*125*	*36*	*89*	*0%*	*50%*	*50%*	*100%*
	Web Services and API Development	*3*	*GE5*	*8*	*5*	*125*	*36*	*89*	*75%*	*0%*	*25%*	*100%*
	Practical Operating Systems	*3*	*GE5A*	*8*	*5*	*125*	*36*	*89*	*50%*	*0%*	*50%*	*100%*
	IoT Principles	*2*	*GE6*	*8*	*5*	*125*	*36*	*89*	*40%*	*0%*	*60%*	*100%*
	IoT Software Development	*3*	*GE6*	*8*	*5*	*125*	*36*	*89*	*60%*	*40%*	*0%*	*100%*
	Fundamentals of Mobile Communication	*3*	*GE6*	*8*	*5*	*125*	*36*	*89*	*40%*	*0%*	*60%*	*100%*

Name of Provider	National College of Ireland									
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Award Title (HETAC named award)	Higher Diploma in Science in Computing									
Stage Exit Award Title										
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc)	Part Time, Blended, OC, ACCS									

Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective		ISCED Subject Code	
Major	8	6	Award	8		60	September 2017			

Ref	Module Title	Seme ster	Module		ECTS Credit Number	Total Student Effort			Allocation of Marks			
			Status (M/E)	NQF Level		Total Hours	Contact Hours	Independent Learning	CA %	Project %	Final %	Total %
	Multimedia and Mobile Application Development	3	GE6A	8	5	125	36	89	60%	40%	0%	100%
	Security Principles	2	GE7	8	5	125	36	89	50%	0%	50%	100%
	Fundamentals of Secure Programming	3	GE7	8	5	125	36	89	50%	50%	0%	100%
	Penetration Testing	3	GE7	8	5	125	36	89	50%	0%	50%	100%
	Digital Forensics	3	GE7A	8	5	125	36	89	50%	0%	50%	100%
	Business Analysis and Communication	3	GE8	8	10	250	48	202	50%	0%	50%	100%
	Fundamentals of Software Quality and Testing	2	GE8	8	5	125	36	89	50%	0%	50%	100%
	Applied Software Testing	3	GE8A	8	5	125	36	89	50%	50%	0%	100%
	Domain Skills for Computing	3	GE1B, GE2B, GE3B,	8	5	125	36	89	100%	0%	0%	100%

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Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective	ISCED Subject Code
Major	8	6	Award	8		60	September 2017	

Ref	Module Title	Se me ste r	Module Status (M/E)	NQF Leve l	ECTS Credit Number	Total Hour s	Conta ct Hours	Independe nt Learning	CA %	Project %	Final %	Total %
			GE4B, GE5B, GE6B, GE7B, GE8B									
	Project	*4*	*M*	*8*	*10*	*250*	*36*	*214*	*0%*	*100%*	*0%*	*100%*

Special Regulations: Students must choose a Group Elective

Group Elective 1 – Mobile Cloud Gaming (Modules: Cloud Gaming, Graphics and Animation for Devices, Mobile Game Development, Server Side Development (Elective), Domain Skills for Computing (Elective)) OR

Group Elective 2 – Mobile Application Development (Modules: Fundamentals of Mobile Communication, Advanced Mobile Application Development, Multimedia and Mobile Application Development, Server Side Development (Elective), Domain Skills for Computing (Elective)) OR

Group Elective 3 – Software Development (Modules: Data Structures and Algorithms, Advanced Programming, Web Services and API Development, Server Side Development(Elective), Domain Skills for Computing (Elective)) OR

Group Elective 4 – Computing Infrastructure (Modules: Data Storage and Management, Infrastructure Management, Virtualisation, Practical Operating Systems (Elective), Domain Skills for Computing (Elective)) OR

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Programme Title (i.e. named award)	Higher Diploma in Science in Computing							
Award Title (HETAC named award)	Higher Diploma in Science in Computing							
Stage Exit Award Title								
Modes of Delivery (FT/PT/ACCS/BLENDED/OC etc)	Part Time, Blended, OC, ACCS							

Award Class	Award NQF Level	Award EQF Level	Stage	Stage NQF Level	Stage EQF Level	Stage Credit (ECTS)	Date Effective	ISCED Subject Code
Major	8	6	Award	8		60	September 2017	

Ref	Module Title		Semester	Module		ECTS Credit Number	Total Student Effort			Allocation of Marks			
				Status (M/E)	NQF Level		Total Hours	Contact Hours	Independent Learning	CA %	Project %	Final %	Total %

Group Elective 5 – Cloud Computing (Modules: Cloud Application Development, Cloud Computing in Business, Web Services and API Development, Practical Operating Systems (Elective), Domain Skills for Computing (Elective)) OR

Group Elective 6 – Internet of Things (Modules: IoT Principles, IoT Software Development, Fundamentals of Mobile Communication, Multimedia and Mobile Application Development (Elective), Domain Skills for Computing (Elective)), OR

Group Elective 7 – Cyber Security (Modules: Security Principles, Fundamentals of Secure Programming, Penetration Testing, Digital Forensics (Elective), Domain Skills for Computing (Elective)), OR

Group Elective 8 – Software Quality and Testing (Modules: Business Analysis and Communication, Fundamentals of Software Quality and Testing, Applied Software Testing (Elective), Domain Skills for Computing (Elective))

Each stream/ specialisation has 2 elective modules, which are mutually exclusive: one stream-specific elective module (i.e. GE1A, GE2A, GE3A, GE4A, GE5A, GE6A, GE7A, and GE8A) and the Domain Skills for Computing module (i.e. GE1B, GE2B, GE3B, GE4B, GE5B, GE6B, GE7B, and GE8B) that is elective and available for all 8 streams/specialisations.

The project must be passed