

School/Department: Science/Computing

Date: 11/02/2020

Title of the Programme:

BSc Hons in Computing with Data Science and AI Level 8 - 240 ECTS Credits

With Embedded Exit Award – Higher Certificate in Computing Level 6 - 120 ECTS Credits

Chairperson: David Denieffe, VP for Academic Affairs and Registrar, IT Carlow

Members of the Panel:

Fiona Lawless, Head of Department of Computing, Dundalk IT; Ted Parslow, Chairperson of the Third Level Computing Forum; Clementine Hegarty, Student Letterkenny IT; and Donagh McMorrow, Pramerica.

Secretary: Simon Stephens

LYIT Staff: Paul Hannigan (President), Billy Bennett (VP Academic Affairs and Registrar), Gertie Taggart (Head of School of Science), Thomas Dowling (Head of Department of Computing), Mark Leeney, Ruth Lennon, James Connolly, Kevin Meehan, Angela Sweeney and Edwina Sweeney.

Criteria for the Validation of a New Programme

1. The Programme Aims and Objectives are clear and consistent with the Award sought.
2. The Programme concept, implementation strategy are well informed and soundly based.
3. The Programme's Access, Transfer and Progression arrangements are satisfactory.
4. The Programme's written curriculum is well structured and fit for purpose.
5. There are sufficient qualified and capable programme staff.
6. There are sufficient physical resources to implement the programme as planned.
7. The learning environment is consistent with the needs of the programme learners.
8. There are sound Teaching, Learning and Assessment Strategies.
9. Learners enrolled on the Programme will be well informed, guided and cared for.
10. The Programme will be well managed.

The Panel of Assessors advises the Academic Council that the Institute and the School/Department should take cognisance of the following **commendations**:

1. The quality of the documentation and the cohesiveness of the programme team.
2. The innovative approach to programme and module development.

The Panel of Assessors advises Academic Council of approval of the programmes subject to the general conditions of approval together with the following additional **conditions**:

N/A

The Panel of Assessors advises the Academic Council that the Institute and the School/Department should take cognisance of the following **recommendations**:

1. Review Mathematics 1 (Yr1) and Statistics (Yr1) so that the learners have the grounding needed for the rest of the programme. Rename Statistics as *Mathematics and Statistics*.
2. Explicitly embed testing and security within the programme.
3. Change the sequence in semester 5/6 so that learners do *Data Ethics and Governance* in advance of *Reporting and Visualisation*.
4. Engage with employers to ensure that learners have *protected* time during the placement to complete coursework.
5. Consider renaming Data Analytics as Applied Data Analytics.

Department of Computing Response to the Recommendations

The development team agrees that all of these recommendations will be fully implemented. The revised course document will follow as soon as possible.

Proposed Programme Schedule(s) please attach final schedule to bottom of the report.

Programme Schedule – Year 1 Semester 1

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: BSc Honours in Computing with Data Science and AI
 Higher Certificate in Computing
 Area Of Specialisation: Data Science
 Learning Mode Offered: Full-time
 Stage: 1
 Semester: 1
 Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
1	Computer Architecture and Operating Systems 1	M	6	5	2	2	4	8	50			50	100
1	Mathematics for Computing 1	M	6	5	2	2	4	8	30			70	100
1	Introduction To Data Science	M	6	5	2	2	4	8	100				100
1	Introduction to Object Oriented Programming	M	6	10	2	6	9	17	60			40	100
1	Personal and Professional Development	M	6	5		4	4	8	100				100

Total ECTS credits required for stage: 30

Special Regulations:

Note: It is Institute policy to publish the Final Reports of the Panel of Assessors

Programme Schedule – Year 1 Semester 2

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: BSc Honours in Computing with Data Science and AI
Higher Certificate in Computing

Area Of Specialisation: Data Science

Learning Mode Offered: Full-time

Stage: 1

Semester: 2

Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
2	Computer Architecture and Operating Systems 2	M	6	5	2	2	4	8	50			50	100
2	Mathematics & Statistics	M	6	10	4	2	11	17	60			40	100
	Introduction to Object Oriented Programming	M	6	10	2	6	9	17	40			60	100
2	Relational Databases	M	6	5	2	2	4	8	40			60	100

Total ECTS credits required for stage: 30

Special Regulations:

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Programme Schedule – Year 2 Semester 3

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: BSc Honours in Computing with Data Science and AI
Higher Certificate in Computing

Area Of Specialisation: Data Science

Learning Mode Offered: Full-time

Stage: 2

Semester: 3

Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
3	SQL Programming	M	6	5	1	3	4	8	100				100
3	Network Fundamentals	M	6	5	2	2	4	8	50			50	100
3	Object Oriented Analysis and Design	M	6	5	1	2	5	8	50			50	100
3	Object Oriented Programming 2	M	6	10	2	5	10	17	60			40	100
3	Scripting	M	6	5	1	2	5	8	50			50	100

Total ECTS credits required for stage: 30

Special Regulations:

Programme Schedule – Year 2 Semester 4

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: BSc Honours in Computing with Data Science and AI
Higher Certificate in Computing

Area Of Specialisation: Data Science

Learning Mode Offered: Full-time

Stage: 2

Semester: 4

Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
4	Data Warehousing for Business Analytics	M	6	5	2	2	4	8	100				100
4	Big Data Architecture	M	6	10	4	2	11	17	100				100
4	Algorithms and Data Structures	M	6	5	2	2	4	8	40			60	100
4	Machine Learning	M	6	10	3	2	12	17	50			50	100

Total ECTS credits required for stage: 30

Special Regulations:

Programme Schedule – Year 3 Semester 5

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: BSc Honours in Computing with Data Science and AI

Area Of Specialisation: Data Science

Learning Mode Offered: Full-time

Stage: 3

Semester: 5

Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
5	Data Ethics and Governance	M	7	5	1	2	5	8	50			50	100
5	Project Management	M	7	5	2	2	4	8	40			60	100

Total ECTS credits required for stage: 10

Special Regulations:

Programme Schedule – Year 3 Semester 6

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: BSc Honours in Computing with Data Science and AI
 Area Of Specialisation: Data Science
 Learning Mode Offered: Full-time
 Stage: 3
 Semester: 6
 Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks or 35 weeks for Placement)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
5& 6	Placement	M	7	40			35	35 HPW * 35 Weeks Minimum	100				Pass/Fail
6	Reporting and Visualisation	M	7	5	1	2	5	8	100				100
6	Academic and Technical Writing Skills	M	7	5	1	2	5	8	100				100

Total ECTS credits required for stage: 50

Special Regulations:

Programme Schedule – Year 4 Semester 7

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: BSc Honours in Computing with Data Science and AI

Area Of Specialisation: Data Science

Learning Mode Offered: Full-time

Stage: 4

Semester: 7

Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
7	Software Engineering	M	8	5	2	1	5	8	40			60	100
7	Natural Language Processing	M	8	10	3	3	11	17	100				100
7	Research in Computing with Emerging Technologies	M	8	10	2	4	11	17	100				100
7	Applied Data Analytics	M	8	5	1	2	5	8	100				100

Total ECTS credits required for stage: 30

Special Regulations:

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Programme Schedule – Year 4 Semester 8

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: BSc Honours in Computing with Data Science and AI
 Area Of Specialisation: Data Science
 Learning Mode Offered: Full-time
 Stage: 4
 Semester: 8
 Date Effective: September 2020

Semester	Title of examination subject	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent	Total	CA	Project	Practical	Final	Max
8	Legal, Ethical and Social Issues in Computing	M	8	5	1	2	5	8	30			70	100
8	Computer Vision	M	8	10	3	3	11	17	100				100
8	Project Development	M	8	10		6	11	17		100			100
8	Predictive Modelling	M	8	5	1	2	5	8	100				100

Total ECTS credits required for stage: 30

Special Regulations:

Programme Evaluation Report Approved by:


 David Denieffe

Chair to Panel

(VP for Academic Affairs and Registrar, Carlow IT)

Date 17.12.2020


 Billy Bennett

(VP for Academic Affairs and Registrar,
 Letterkenny IT)

Date 17/12/20