



School/Department: Department of Electronic and Mechanical Engineering

Date: 26 April 2022

Title of the Programme: Bachelor of Engineering in Electric Vehicle Engineering, level 7, 180 ECTS

Chairperson: Dr Sean Lyons, Dean of the Faculty of Engineering & Informatics, TUS

Members of the Panel: Colman Ledwith, Head of Department of Electronic & Mechanical Engineering, DKIT; Dr Avril Behan, College of Engineering & Built Environment, TUD; John Roulstone, Production Manager, KIRCHHOFF Ireland Ltd.; Maria McKeever, Research Masters Student, ATU Donegal; Adrian Sweeney, Alumni.

Secretary: Dr Deirdre McClay, Senior Lecturer Teaching Learning and Student Engagement, ATU Donegal.

LYIT Staff: Dr Gertie Taggart, Dr Paddy Hannigan, Dr Charles Young, Colin Gibson, Dean Harron, Christopher Roulston, and Brendan Corry.

Criteria for the Approval 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.

(For the attention of the Academic Council)

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

- The Industrial Studies (SPA) module needs to be separate from this programme document as it is not embedded in the programme.

Response

The Industrial Studies SPA has been separated from the programme document and will not be embedded in the programme.

- The delivery strategy should be stated precisely as to the online and face to face elements of the programme.

Response

All modules in this programme were designed for the normal face to face delivery and this programme will be delivered in line with all existing full-time programmes.

- An assessment calendar/schedule should be drawn up combined with a more consistent approach to assessment.

Response

An assessment schedule will be compiled from the details on assessment presented in each individual module in the programme document. A further standardisation of assessment practices will be undertaken to achieve greater consistency in assessment for this programme.

- It should be stated where partnerships currently exist and where others might be available in the future.

Response

The partnerships in place with Hyundai and the FE colleges together with initial links with other companies involved in all aspects of EV will be expanded upon in the programme document.

- The documentation should address the focus on OEM and possible demand from development in electric vehicles.

Response

The programme document will provide additional detail on the changes that are expected in the increased take up of electric vehicles and the various technologies that are likely to be a part of this transition. Donegal ATU has links with the key OEMs in the EV area and the programme document will be revised to greater reflect the needs of OEMs in this area.

- The department should investigate a progression route from this level 7 programme.

Response

The Department has already had some discussion in terms of the progression routes for graduates from the Level 7 programme and a Level 8 is planned and development of this proposed add-on Level 8 will commence in 2022/23.

- Appropriate funding should be put in place to support the programme.

Response

The Department has been fortunate to have funds available from the successful Springboard+ BSc in EV Technology and new facilities for the EV area are included in ATU Donegal capital projects. The EV area is a strategic opportunity for the ATU Donegal and supporting the roll-out of this area is a priority at the Letterkenny campus.

- Some books and software references need to be updated.

Response

All texts and software included in the programme documents and will be updated where required.

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

None

PART 4 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: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 1
 Semester: 1
 Date Effective: September 2022

Semester	Module	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	Mathematics 1	M	6	5	4		4	8	25			75	100
1	Engineering Science 1	M	6	5	3	2	3	8	40			60	100
1	Computing for Engineering	M	6	5	2	2	4	8	75			25	100
1	Engineering Drawing and CAD	M	6	5	1	2	5	8	100				100
1	Engineering problem Based Learning 1	M	6	10	2	5	10	17	100				100

Total ECTS credits required for stage: 30

Programme Schedule – Year 1 Semester 2

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 1
 Semester: 2
 Date Effective: September 2022

Semester	Module	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	Mathematics 2	M	6	5	4		4	8	25			75	100
2	Programming	M	6	5	2	2	4	8	100				100
2	Engineering Science 2	M	6	5	3	2	3	8	40			60	100
2	Engineering Workshop Technology 1	M	6	5	1	3	4	8	60			40	100
2	Analogue Electronics 1	M	6	5	2	2	4	8	40			60	100
2	Engineering problem Based Learning 2	M	6	5	1	3	4	8	100				100

Total ECTS credits required for stage: 30

Programme Schedule – Year 2 Semester 3

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 2
 Semester: 3
 Date Effective: September 2022

Semester	Module	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent Learning	Total	CA	Project	Practical	Final	Max
3	Mathematics 3	M	6	5	4		4	8	25			75	100
3	Mechanics 1	M	6	5	3	1	4	8	25			75	100
3	Mechanical Design 1	M	6	5	2	2	4	8	40			60	100
3	Automotive Components	M	6	5	1	3	4	8	100				100
3	Engineering Materials	M	6	5	2	2	4	8	50			50	100
3	Electric Vehicle Manufacturing 1	M	6	5	2	2	4	8	60			40	100

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

Programme Schedule – Year 2 Semester 4

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 2
 Semester: 4
 Date Effective: September 2022

Semester	Module	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent Learning	Total	CA	Project	Practical	Final	Max
4	Mathematics 4	M	6	5	4		4	8	25			75	100
4	Mechanics 2	M	6	5	3	1	4	8	25			75	100
4	Mechanical Design 2	M	6	5	2	2	4	8	40			60	100
4	Automotive Control Systems	M	6	5	2	2	4	8	40			60	100
4	Electric Vehicle Low Voltage and High Voltage Systems	M	6	5	2	2	4	8	40			60	100
4	Electric Vehicle Manufacturing 2	M	6	5	1	3	4	8	100				100

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Programme Schedule – Year 3 Semester 5

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 3
 Semester: 5
 Date Effective: September 2022

Semester	Module	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent Learning	Total	CA	Project	Practical	Final	Max
5	Mathematics 5	M	7	5	4		4	8	25			75	100
5	Mechanics 3	M	7	5	3	1	4	8	25			75	100
5	Mechanical Design 3	M	7	5	2	2	4	8	40			60	100
5	High Voltage Design and Hardware	M	7	5	3	1	4	8	25			75	100
5	Vehicle Chassis Dynamics	M	7	5	3	1	4	8	25			75	100
5	Automotive Project Design	M	7	5	1	2	5	8	100				100

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Programme Schedule – Year 3 Semester 6

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: Bachelor of Engineering in Electric Vehicle Engineering
 Area Of Specialisation: Electric Vehicle Engineering
 Learning Mode Offered: Full-Time
 Stage: 3
 Semester: 6
 Date Effective: September 2022

Semester	Module	Subject status	ECTS credits		Contact hours (per week over 13 weeks)				Allocation of marks				
			Level	Number	L/T	P	Independent Learning	Total	CA	Project	Practical	Final	Max
6	Mathematics 6	M	7	5	4		4	8	25			75	100
6	Mechanics 4	M	7	5	3	1	4	8	25			75	100
6	Mechanical Design 4	M	7	5	2	2	4	8	40			60	100
6	Engineering Management	M	7	5	2	1	5	8	25			75	100
6	Thermodynamics and Battery Technology	M	7	5	2	2	4	8	40			60	100
6	Automotive Project Build	M	7	5		4	4	8			100		100
6	Industry Studies	E	7	15				35HPW 280H	100				Pass/F

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Programme Validation Approved by:

Dr Sean Lyons

Chair to Panel

(Dean of the Faculty of Engineering & Informatics, TUS)

Date _____

Dr Billy Bennett

(VP for Academic Affairs and Registrar, Letterkenny IT)

Date _____