



Appendix 3.4

Letterkenny Institute of Technology

Report of the Panel of Assessors

PART 1 GENERAL INFORMATION

SCHOOL/DEPARTMENT: Department of Electronic and Mechanical Engineering

DATE OF VISITATION: 7 June 2017

PROGRAMMES EVALUATED:

Bachelor of Engineering (Honours) in Electronics and Embedded Systems

Bachelor of Engineering (Honours) in Mechanical Engineering

MEMBERS OF PANEL OF ASSESSORS:

Stephen Mc Manus, Former Registrar Dundalk IT (Chair)

Dr Philip Owende, Head of Department, IT Blanchardstown / TU4Dublin Academic Quality Manager, IT Blanchardstown

Dr Seamus Gordon, Department of Design and Manufacturing Technology, University of Limerick

Des O Reilly, Head of Department of Electronic & Electrical Engineering, Galway – Mayo IT

Joe Mc Hugh, Business Development Manager Engineering Division, IDA

Paul Leamy, PhD student in the School of Electrical and Electronic Engineering, DIT

Secretary to Panel: Patricia Doherty, Head of Department of Business Studies

INSTITUTE STAFF:

Dr Jim Morrison, Head of Department of Electronics and Mechanical Engineering
Derek Thornton
David Kavanagh
Chris Rolston
Ken Brown
Dr George Onofrei
Alfie Doherty
James McMonagle
John Hynes
Martin Bradley
Dr Paddy Hannigan
Dr Nick Timmons
Louise Doogan

PART 2 FINDINGS OF ASSESSORS

1. Rational for the programmes.

The programmes as presented are identical in content, outcomes and assessment to the existing 180 credit level 7 programmes and the 60 credit level 8 programmes in the department. No module has been changed for these programme. The programme outcomes for the ab initio 240 credit level 8 are identical to the outcomes of the 60 credit level in the same discipline.

The rational for this identical structure is a marketing one. It is a ultra-efficient mechanism of providing a level 8 option in electronic and mechanical engineering to learners from the region. Effectively it is a marketing mechanism to attract learners unto the existing level 7 and 8, who otherwise would not have applied for those level 7 programmes.

Although these students might be distinguished by having stronger academic credentials at entry this would not deliver any exemptions or additional entitlements.

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2. Letterkenny Institute of technology Academic Council policy.

The policy of the academic council permits identical programmes being offered under different modes, 3+1 stages and 4 stages. It recommends that there should be distinguishing features of the programmes. The Electronic and Mechanical Department has indicated that it does not intend to introduce any difference.

This policy is not unique to LYIT but is not followed by many other institutes in the sector. The QQI policy on this is unclear or unstated.

3. Validation

The modules and the assessments for this programme were previously revalidated by the panel as being of sufficient quality for their parent programmes. As the Academic council allows the use of identical modules the panel did not feel it could refuse the validation on the grounds of content, structure or assessment.

However, the minimum intended programme learning outcomes of the programme must cover the full 240 credits and must be aligned to the level 8 engineering indicators.

The panel is prepared to validate the programme subject to the conditions below and on the condition that the recommendations will be considered by the programme board

4. Validation Criteria

(1) Education and Training Requirements

The programme is consistent with the Institute's mission, avoids redundant provision and makes efficient use of resources (collaborating where this is beneficial).

(2) Unity

There is an underlying unifying theme and the modules are bonded by interactions which are either implicit or explicit.

(3) Teaching and Learning

The proposed approach to teaching and learning is clearly indicated and justified.

(4) Learner Assessment

The learner assessment methods are fully elaborated and consistent with QQI's policy on fair and consistent assessment. The assessment methods are capable, among other things, of demonstrating attainment of the standards of knowledge, skill or competence, determined by QQI, for the related award.

(5) Resources

The proposed staffing levels are appropriate and the levels of qualifications and competence of the staff is sufficient to deliver the programme. The necessary facilities available in terms of accommodation, equipment, and library and information technology resources are satisfactory to support the proposed programme.

(6) Quality Assurance

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The proposal demonstrates how the Institute's quality assurance procedures have been applied in the development of the proposed programme and satisfactory procedures exist for the on-going monitoring and periodic review of programmes. The panel notes that the Academic council recommendation that there be differences between the programme and the parent level 7 and 8 has not being followed in these cases.

(7) Programme Title and Award Title

The award titles are consistent with the named awards determined by QQI. The programme title is clear, accurate, succinct and fit for the purpose of informing prospective learners and other stakeholders.

(8) QQI Standards

The learning outcomes of the programme are not stated in such a way that the compliance with the appropriate QQI standard is demonstrated.

(9) Access Transfer and Progression

This programme incorporates the procedures for access transfer and progression that have been established by the NQAI and is consistent with QQI policy in accommodating a variety of access and entry requirements. However the access requirements are more stringent than those on identical programmes.

PART 3 - CONDITIONS and RECOMMENDATIONS (For the attention of the Academic Council)

5. Conditions

The Panel of Assessors advises the Academic Council that the Institute and the School/Department that the following programmes

Bachelor of Engineering (Honours) in Electronics and Embedded Systems

Bachelor of Engineering (Honours) in Mechanical Engineering

are validated subject to the following conditions.

1. That the Minimum Intended Programme Learning Outcomes be written to describe the intended outcomes of the full 240 credits and that they are aligned with the level 8 engineering descriptors. The minimum intended module learning outcomes should be mapped against the programme outcomes.

The proposal documents have been amended to address this condition. For Electronics and Embedded Systems see P10, Section 5 [P119-124], Appendix B [P140-142], and Appendix F [P157-166]. For Mechanical see P9, Section 5 [P127-132], Appendix B [P150-152], and Appendix F [P168-176].

2. That, irrespective of the outcomes of the reconsideration in recommendation 1 below, applicants and registered students be informed of the differences in content and assessment, if any, between both modes of the programmes.

We would intend including the information in school and Institute marketing literature and in the institute promotion presentation for second level schools.

6. Recommendations

The Panel of Assessors advises the Academic Council that the Institute and the

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School/Department should take cognisance of following recommendations:

1. That the department reconsider whether significant differences can be introduced to the programme to differentiate it from the 3 + 1 model. These differences could be in some third year modules or by offering additional mandatory support to level 7 students.

It is too late to modify the programme significantly at this stage. However, we will review the implementation in the first year with a view to making modifications.

2. The panel recommends that the VHDL and Programming module learning outcomes are reviewed (paying particular attention to module learning outcomes 2 and 4) –

This has been done (P92).

3. The panel recommends that the Embedded Systems 2 module learning outcomes are reviewed.

This has been done (P94).

4. The panel recommends that the first Communications Technologies for Embedded Systems module learning outcome is reviewed.

This has been done (P96).

5. The panel recommends that the Design Project module learning outcomes are reviewed.

This has been done (P99).

6. The panel recommends that the first Software Design (with Embedded Linux) module learning outcome is reviewed.

This has been done (107).

7. The panel recommends that the Embedded Systems 3 module learning outcomes are reviewed.

This has been done (P109).

PART 4 PROPOSED PROGRAMME SCHEDULE(S)**Semester 1 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)**

Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. (Honours) in Mechanical Engineering

Area Of Specialisation: Mechanical Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 1

Semester: 1

Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|---|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 1 | Mathematics 1 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 1 | Engineering Science | M | 6 | 5 | 3 | | 2 | 5 | 25 | | | 75 | 100 |
| 3 | 1 | <i>Introduction to Mechanical Engineering</i> | <i>M</i> | 6 | 5 | | | 4 | 4 | 100 | | | | 100 |
| 4 | 1 | <i>Introduction to Electronics</i> | <i>M</i> | 6 | 5 | | | 4 | 4 | 40 | | | 60 | 100 |
| 5 | 1 | <i>Engineering Technology and Drawing 1</i> | <i>M</i> | 6 | 10 | 2 | | 6 | 8 | 100 | | | | 100 |

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Semester 2 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 1
 Semester: 2
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|------------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 2 | Mathematics 2 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 2 | Electrical Technology | M | 6 | 5 | 3 | | 2 | 4 | 25 | | | 75 | 100 |
| 3 | 2 | Mechanics 1 | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 4 | 2 | Engineering Technology & Drawing 2 | M | 6 | 10 | 1 | | 7 | 8 | | | 70 | 30 | 100 |
| 5 | 2 | PLC Control 1 | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |

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Semester 3 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 2
 Semester: 3
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-------------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 3 | Mathematics 3 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 3 | Engineering Materials Science | M | 6 | 5 | 2 | | 2 | 4 | 50 | | | 50 | 100 |
| 3 | 3 | Thermodynamics | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 4 | 3 | Mechanical Design & Manufacturing 1 | M | 6 | 10 | 4 | | 4 | 8 | 40 | | | 60 | 100 |
| 5 | 3 | Mechanics 2 | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |

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Semester 4 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 2
 Semester: 4
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-------------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 4 | Mathematics 4 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 4 | Mechanics 3 | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 3 | 4 | Instrumentation | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 4 | 4 | Pneumatics | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 5 | 4 | Mechanical Design & Manufacturing 2 | M | 6 | 10 | 4 | | 4 | 8 | 40 | | 60 | | 100 |

Semester 5 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 3
 Semester: 5
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-----------------------------|---------------|--------------|----------|--------------------------|----------|-----------|----------|---------------------|---------|-----------|-----------|------------|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 5 | Mathematics 5 | M | 7 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 5 | Engineering Management 1 | M | 7 | 5 | 3 | 1 | | 4 | 30 | | | 70 | 100 |
| 3 | 5 | Design Project | M | 7 | 5 | 1 | | 2 | 3 | | 100 | | | 100 |
| 4 | 5 | Mechanical Design 1 | M | 7 | 5 | 2 | | 2 | 4 | 40 | | | 60 | 100 |
| | 5 | <i>PLC Control 2</i> | <i>M</i> | <i>7</i> | <i>5</i> | <i>2</i> | | <i>2</i> | <i>4</i> | <i>60</i> | | | <i>40</i> | <i>100</i> |
| 6 | 5 | Mechanics 4 | M | 7 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |

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Semester 6 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 3
 Semester: 6
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-----------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 6 | Mathematics 6 | M | 7 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 6 | Mechanical Design 2 | M | 7 | 5 | 2 | | 2 | 4 | 40 | | | 60 | 100 |
| 3 | 6 | Engineering Management 2 | M | 7 | 5 | 3 | 1 | | 4 | 30 | | | 70 | 100 |
| 5 | 5 | Hydraulics | M | 7 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 5 | 5 | Mechanics 5 | M | 7 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 6 | 6 | Project 1 | M | 7 | 5 | | | 4 | 4 | | 100 | | | 100 |

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Semester 7 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 4
 Semester: 7
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|---------------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 7 | Mathematics 7 | M | 8 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 7 | Mechanics 6 | M | 8 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 3 | 7 | Thermodynamics and Renewable Energy 1 | M | 8 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 4 | 7 | Engineering Design & Analysis | M | 8 | 5 | 2 | | 2 | 5 | 100 | | | | 100 |
| 5 | 7 | Research Project | M | 8 | 5 | 1 | | 3 | 4 | | 100 | | | 100 |
| 6 | 7 | Innovation, Technology and Business | M | 8 | 5 | 1 | | | 1 | 100 | | | | 100 |

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Semester 8 - Proposed Programme Schedule – Bachelor of Mechanical Engineering (Honours)

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. (Honours) in Mechanical Engineering
 Area Of Specialisation: Mechanical Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 4
 Semester: 8
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|--|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 8 | Mathematics 8 | M | 8 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 8 | Thermodynamic Systems & Renewable Energy 2 | M | 8 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 3 | 8 | Computer Aided Engineering | M | 8 | 5 | 2 | | 2 | 4 | 100 | | | | 100 |
| 4 | 8 | Professional Practice | M | 8 | 5 | 1 | | | 1 | 100 | | | | 100 |
| 5 | 8 | Project 2 | M | 8 | 10 | | | 4 | 4 | 100 | | | | 100 |

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Semester 1 - Proposed Programme Schedule – Bachelor of Engineering

Name Of Provider: Letterkenny Institute of Technology
 Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering
 Area Of Specialisation: Electronic and Embedded Systems Engineering
 Learning Mode Offered: Full-time/Part Time
 Stage: 1
 Semester: 1
 Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|--|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 1 | Mathematics 1 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 1 | Engineering Science | M | 6 | 5 | 3 | | 2 | 5 | 25 | | | 75 | 100 |
| 3 | 1 | Introduction to Mechanical Engineering | M | 6 | 5 | | | 4 | 4 | 100 | | | | 100 |
| 4 | 1 | Introduction to Electronics | M | 6 | 5 | 1 | | 3 | 4 | 40 | | | 60 | 100 |
| 5 | 1 | Digital Fundamentals | M | 6 | 10 | 4 | | 2 | 6 | 25 | | | 75 | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 1

Semester: 2

Date Effective: 1st September 2017

| Module number | Semester | Title of examination Module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|--------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 2 | Mathematics 2 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 2 | Electrical Technology | M | 6 | 5 | 3 | | 2 | 5 | 25 | | | 75 | 100 |
| 3 | 2 | Programming 1 | M | 6 | 10 | 2 | | 4 | 6 | 50 | | | 50 | 100 |
| 4 | 2 | Analogue Electronics 1 | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 5 | 2 | PLC Control 1 | M | 6 | 5 | 2 | | 2 | 4 | 100 | | | | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 2

Semester: 3

Date Effective: 1st September 2017

| Module number | Semester | Title of examination Module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|----------------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 3 | Mathematics 3 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 3 | <i>Signals & Systems</i> | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 3 | 3 | <i>Analogue Circuit Design 1</i> | M | 6 | 10 | 2 | | 4 | 6 | | | 50 | 50 | 100 |
| 4 | 3 | Micro-controllers | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 5 | 3 | Communication Systems | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 2

Semester: 4

Date Effective: 1st September 2017

| Module number | Semester | Title of examination Module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|---|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 4 | Mathematics 4 | M | 6 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 4 | Java Programming | M | 6 | 5 | 1 | | 2 | 3 | 40 | | | 60 | 100 |
| 3 | 4 | Instrumentation | M | 6 | 5 | 2 | | 2 | 4 | 25 | | | 75 | 100 |
| 4 | 4 | Digital Communications and Transmission | M | 6 | 5 | 3 | | 2 | 5 | 25 | | | 75 | 100 |
| 5 | 4 | <i>Analogue Circuit Design 2</i> | <i>M</i> | 6 | 10 | 2 | | 4 | 6 | | | 50 | 50 | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 3

Semester: 5

Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-----------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 5 | Mathematics 5 | M | 7 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 5 | Engineering Management 1 | M | 7 | 5 | 3 | 1 | | 4 | 30 | | | 70 | 100 |
| 3 | 5 | Design Project 1 | M | 7 | 5 | 1 | | 2 | 3 | | 100 | | | 100 |
| 4 | 5 | Embedded Systems 1 | M | 7 | 10 | 4 | | 2 | 6 | 25 | | | 75 | 100 |
| 5 | 5 | PLC Control 2 | M | 7 | 5 | 2 | | 2 | 4 | 60 | | | 40 | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 3

Semester: 6

Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|-----------------------------|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 6 | Mathematics 6 | M | 7 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 6 | Wireless Communications | M | 7 | 5 | 3 | | 2 | 5 | 25 | | | 75 | 100 |
| 3 | 6 | Analogue Electronics 2 | M | 7 | 10 | 4 | | 2 | 6 | 25 | | | 75 | 100 |
| 4 | 6 | Project 1 | M | 7 | 5 | | | 4 | 4 | | 100 | | | 100 |
| 5 | 6 | Engineering Management 2 | M | 7 | 5 | 3 | 1 | | 4 | 30 | | | 70 | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 4

Semester: 7

Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|--|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 7 | Mathematics 7 | M | 8 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 7 | VHDL & Programming | M | 8 | 5 | 2 | | 2 | 4 | 40 | | | 60 | 100 |
| 3 | 7 | Embedded Systems 2 | M | 8 | 5 | 2 | | 2 | 4 | 40 | | | 60 | 100 |
| 4 | 7 | Communications Technologies for Embedded Systems | M | 8 | 5 | 3 | | 2 | 5 | 30 | | | 70 | 100 |
| 5 | 7 | Design Project 2 | M | 8 | 5 | 1 | | 3 | 4 | | 100 | | | 100 |
| 6 | 7 | Innovation, Technology and Business | M | 8 | 5 | 1 | | | 1 | 100 | | | | 100 |

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Name Of Provider: Letterkenny Institute of Technology

Title Of Award: B.Eng. in (Honours) in Electronic and Embedded Systems Engineering

Area Of Specialisation: Electronic and Embedded Systems Engineering

Learning Mode Offered: Full-time/Part Time

Stage: 4

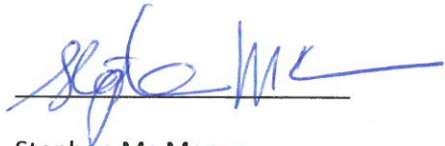
Semester: 8

Date Effective: 1st September 2017

| Module number | Semester | Title of examination module | Module status | ACCS credits | | Contact hours (per week) | | | | Allocation of marks | | | | |
|---------------|----------|--|---------------|--------------|--------|--------------------------|----------|-----------|-------|---------------------|---------|-----------|-------|-----|
| | | | | Level | Number | Lecture | Tutorial | Practical | Total | CA | Project | Practical | Final | Max |
| 1 | 8 | Mathematics 8 | M | 8 | 5 | 3 | 1 | | 4 | 25 | | | 75 | 100 |
| 2 | 8 | <i>Software Design (with Embedded Linux)</i> | M | 8 | 5 | 2 | | 2 | 4 | | 50 | | 50 | 100 |
| 3 | 8 | Embedded Systems 3 | M | 8 | 5 | 2 | | 2 | 4 | 40 | | | 60 | 100 |
| 4 | 8 | Networking of Embedded Systems | M | 8 | 5 | 3 | | 2 | 5 | 30 | | | 70 | 100 |
| 5 | 8 | Project 2 | M | 8 | 5 | 1 | | 3 | 4 | | 100 | | | 100 |
| 6 | 8 | Professional Practice | M | 8 | 5 | 1 | | | 1 | 100 | | | | 100 |

Note: It is Institute policy to publish the final reports of the Panel of Assessors

Programme Evaluation Report Approved by:



Stephen Mc Manus

Chairman to Panel

(Former Registrar, Dundalk IT)

Date:

19/09/17



Billy Bennett

(Registrar, Letterkenny IT)

Date:

19/9/17.