

**Institiúid Teicneolaíochta Luimnigh
Limerick Institute of Technology**

**Dámh, Eolaíocht Fheidhmeach, Innealtóireacht agus
Teicneolaíocht
Faculty, Applied Science, Engineering and Technology**

Report of Peer Review Panel

Programmatic Review

of the

Department of Information Technology

June 2016

TABLE OF CONTENTS

1. INTRODUCTION	3
2. GENERAL INFORMATION	3
2.1 Higher Education Provider.....	3
2.2 Programmes Evaluated	3
2.3 External Programmatic Review Panel of Expert Assessors.....	3
2.4 Institute Staff	4
2.5 Selected Stakeholders	5
2.6 Documentation	5
3. FINDINGS AND RECOMMENDATIONS OF EXTERNAL PROGRAMMATIC REVIEW PANEL	7
3.1 Main Findings	7
3.2 Conditions	7
3.3 Recommendations	7
3.4 Commendations and Observations	9

1. INTRODUCTION

This report outlines, in summary form, the proceedings of the programmatic review in the Faculty of Applied Science, Engineering and Technology and the findings of the External Peer Review Group in June 2016. The programmatic review was undertaken in accordance with Section 3.8 of the LIT document '*Academic Council Regulations and Procedures for Taught Programmes: Academic Year 2015/2016: Part 1*' (ACRP). The report of the Programmatic Review Panel is the academic judgement of a peer group on the academic standard and quality of the programmes of the Faculty. It confirms to the Institute the standard of the programmes in a publicly accountable manner.

2. GENERAL INFORMATION

2.1 Higher Education Provider

Institute:	Limerick Institute of Technology
Faculty:	Faculty of Applied Science, Engineering and Technology
Department:	Information Technology
Date of Review/Visit:	June 15 th and 16 th 2016
Venues:	Institute Board Room, Moylish Park Campus HEAC Board Room, Moylish Park Campus

2.2 Programmes Evaluated

Department of Information Technology

Higher Diploma in Software Development
Bachelor of Science (Honours) in Software Development
Bachelor of Science in Computing
Higher Certificate in Computing in Software Development
Bachelor of Science (Honours) in Games Design and Development

Bachelor of Science (Honours) in Business Information Systems
Higher Certificate in Business with Computing
Bachelor of Business in Business with Computing
Bachelor of Business (Honours) in Business with Computing

Higher Diploma in Creative Multimedia Programming
Bachelor of Science (Honours) in Multimedia Programming and Design
Bachelor of Science in Internet Computing
Bachelor of Science (Honours) in Internet Computing (Add on)
Bachelor of Science (Honours) in Internet Computing

Bachelor of Science (Honours) in Computer Networks and System Management

2.3 External Programmatic Review Panel of Expert Assessors

Dr. Brian Bennett, (Chairperson)
EISA Ireland and (formerly IT Carlow)

Dr. Pat Doody,
Institute of Technology Tralee
Dr. Sean Duignan
Galway-Mayo Institute of Technology
Mr. Pat Brosnan,
DELL
Mr. Dermot Clark,
Dublin Institute of Technology
Mr. Stephen Howell,
Microsoft
Mr. Kieran Nolan,
Dundalk Institute of Technology
Mr. Barry O'Loughlin,
Athlone Institute of Technology
Ms. Ailis NiChofaigh,
Student Representative
Ms. Dolores Tanner,
SAP

2.4 Institute Staff

Mr. Terry Twomey, President
Mr. Paschal Meehan, Head of Faculty of Applied Science, Engineering and Technology
Ms. Maria Kyne, Vice-President of Academic Affairs and Registrar
Ms. Janice O'Connell, Head of Department of Information Technology
Ms. Frances O'Connell, Assistant Registrar

Department of Information Technology

Ms. Elizabeth Bourke	Ms. Caroline McAlister
Mr. Nicholas Brady	Ms. Denise McEvoy
Ms. Lorraine Callanan	Mr. Pdraig Moran
Mr. Niall Corcoran	Dr. Liam Noonan
Mr. Tom Davis	Dr. Ken Oakley
Mr. Patrick Donohue	Ms. Pamela O'Brien
Mr. Seamus Doyle	Mr. Des O'Carroll
Ms. Maureen Falvey	Dr. Séamus Ó Ciardhuáin
Ms. Lindy Farmer	Mr. Mike O'Connell
Ms. Angela Gaine	Ms. Suzanne O'Gorman
Mr. Gerry Guinane	Mr. Evan O'Keeffe
Mr. Neil Higgins	Mr. Richard O'Keeffe
Mr. Jim Holohan	Ms. Aileen O'Mara
Ms. Jacqueline Humphries	Dr. Carol Rainsford
Dr. Oliver Hyde	Mr. Alan Ryan
Mr. John Jennings	Ms. Mary Ryan
Ms. Ita Kavanagh	Ms. Ciara Staunton
Mr. Eugene Kenny	Mr. William Ward
Ms. Natasha Kiely	Mr. Brendan Watson
Ms. Marian Lynch	Mr. Mike Winterburn
Mr. Bill Lyons	

2.5 Selected Stakeholders

2.5.1 Employers/Industry & Alumni Representatives

Ms. Fiona Deegan	NTES Ltd
Mr. Ray Dooley	Johnson & Johnson EDC
Mr. Niall O'Callaghan	IDA Mid-West Region
Mr. Ingo Shumacher	Electronic Arts
Mr. Alan Webb	Johnson & Johnson EDC

2.5.2 Current Students

Mr. Robert Ahern	Graduate	Software Development
Ms. Fiona Kiely	H.Dip.	H.Dip. in Creative Multimedia & Programming
Ms. Rachel O'Mahony	3 rd	Business Technology
Mr. Eric McNamara	4 th	Multimedia Programming & Design
Ms. Shannon McNamara	4 th	Internet Systems Development
Ms. Subadra O'Sullivan	4 th	Computer Networks & Systems Management
Ms. Orla Walsh	3 rd	Business Computing

2.6 Documentation

2.6.1 Critical Self-Study, Faculty of Applied Science, Engineering and Technology

2.6.2 Department of Information Technology, Programmatic Review document

2.6.3 Higher Diploma in Computing in Software Development (Level 8)

2.6.4 Bachelor of Science (Honours) in Software Development (Level 8)

2.6.5 Bachelor of Science (Ordinary) in Computing (Level 7)
Higher Certificate in Computing in Software Development (Level 6)

2.6.6 Bachelor of Science (Honours) in Games Design and Development (Level 8)

2.6.7 Bachelor of Science (Honours) in Business Information Systems (Level 8)

2.6.8 Higher Certificate in Business with Computing (Level 6)
Bachelor of Business (Ordinary) in Business with Computing (Level 7)
Bachelor of Business (Honours) in Business with Computing (Level 8)

2.6.9 Higher Diploma in Computing in Creative Multimedia Programming (Level 8)

2.6.10 Bachelor of Science (Honours) in Multimedia Programming and Design (Level 8) – Existing Title
Bachelor of Science (Honours) in Interactive Digital Media (Level 8) – Proposed Title

- 2.6.11 Bachelor of Science (Ordinary) in Internet Computing (Level 7) – Existing Title
Bachelor of Science (Ordinary) in Internet Systems Development (Level 7) – Proposed Title
- 2.6.12 Bachelor of Science (Honours) in Internet Computing (Level 8 - add-on) – Existing Title
Bachelor of Science (Honours) in Internet Systems Development (Level 8 – add-on) Proposed Title
- 2.6.13 Bachelor of Science (Honours) in Internet Computing (Level 8 - ab-initio) – Existing Title
Bachelor of Science (Honours) in Internet Systems Development (Level-8 ab-initio) – Proposed Title
- 2.6.14 Bachelor of Science (Honours) in Computer Networks and System Management (Level 8)

3. FINDINGS AND RECOMMENDATIONS OF EXTERNAL PROGRAMMATIC REVIEW PANEL

3.1 Main Findings

The External Validation Panel of Assessors recommends the on-going approval and re-validation for a further five years of the submitted programmes and associated amendments in the Department of Information Technology, Faculty of Applied Science, Engineering and Technology, subject to the following conditions and recommendations.

3.2 Conditions

- 3.2.1 A detailed strategic vision and strategy for the Department for the next five years should be developed and documented. Specific targets should be identified and appropriate metrics identified. (For example, projected student numbers, target retention and completion figures, projected human and physical resource requirements, local cluster plans, international initiatives and collaborations, proposed programme developments, projected research activities, alternative programme delivery modes, industrial advisory input arrangements, etc. should be identified.) The documents should be consistent with the Institute and Faculty strategies. The SWOT analysis should also inform the development. (The panel noted that the evaluation of projections was required under the Institute regulations for programmatic review.) The Panel is aware of the physical constraints the Department is operating within, but is concerned that a lack of strategic planning may be to the deficit of the Department in the medium to long-term. Guidance and consultation with Senior Management of the Institute on the Department's strategic focus should ensure the emergence of realistic student target numbers and resource provision for the achievement of the various strands of the strategy.
- 3.2.2 A process for the speedy replacement of academic staff on sick (or other) leave should be established as a priority. Tuition should be maintained. This is particularly important within the context of semesterisation. (A substitute panel should be considered for example.)
- 3.2.3 A more structured and coordinated approach should be initiated from the start of stage-two in preparation for the stage-three work placements, particularly in programmes that have not had work placements in the past. Appropriate student preparation, including effective résumé writing, should be included.

3.3 Recommendations

- 3.3.1 Within its quality assurance strategic planning, the Institute should give consideration to the creation of an Education Development Centre, where staff could be offered training and development in more structured approaches to the pedagogy of Teaching & Learning, as well as pathways to more formal and recognised Teaching and Learning qualifications.
- 3.3.2 The changes in programme titles should be adopted as proposed during the programmatic review process.
- 3.3.3 The learning outcomes should be revised. The language (verbs) used in the learning outcomes in the later stages should be at the correct NFQ level, and should reflect the requirements of the national standards. (The learning outcomes at level-7 and level-8 should be more analytical, for example.) The relationship between the NFQ levels, the discipline standards, the programme learning outcomes, the

module learning outcomes and the assessment of those learning outcomes should be maintained and evidenced in the documentation.

- 3.3.4 A pass/fail grade should be awarded for work placements. The work placement should not contribute to an award classification. (The panel were informed that academic failure for a work placement was exceptional and very rare.)
- 3.3.5 Given the associated student workload, a minimum of fifteen credits should be allocated to the final year project (FYP). (This may involve the loss of an elective, perhaps in the first semester, for example.) The standard ECTS student workload should be considered. (The FYP is typically a show-piece for employability.)
- 3.3.6 The number of learning outcomes in five-credit modules should be reduced. (A guideline of about three or four learning outcomes per five-credit module is suggested.)
- 3.3.7 The assessment calendars should be reviewed. There is strong evidence of over-assessment, particularly of five-credit modules. The standard ECTS student workload should be adopted. (A guideline of two assessments per five-credit module is suggested.) The assessments should be clearly mapped against each of the module learning outcomes. (The panel were supportive of shared assessments.)
- 3.3.8 The content of the programmes and modules should reflect and emphasise current and emerging industrial practice and technology. (The panel echoed concerns expressed by the industry representatives and the students (e.g. insufficient attention in relevant programmes to agile software development, cloud computing, object oriented analysis and design, web pages in the business programme, algorithms & data structures, cyber security, ethics, data analytics, advanced mobile apps, etc., and the removal of 'archaic' content).) It is critical that graduates have a strong understanding of business processes associated with ERP, CRM, PLM, HCM, SCM, etc. as these skills are highly sought after by industry for technical and business roles. The panel acknowledged the difficulties in determining programme content: what-to-include versus what-to-leave-out. The challenge and essential need of staying current in information technology was also acknowledged. The Department should create a survey/check-in on which modules should be added/deleted based on what companies and/or industry are looking for from graduates to ensure the course remains fresh and up to date.
- 3.3.9 The primary responsibility for obtaining a work placement should rest more firmly with the individual student.
- 3.3.10 A provision for the repeat of a failed module or component should be clearly included in the programme documentation.
- 3.3.11 The inclusion of prerequisites should be considered so that the relevant modules can be seen as standalone and perhaps shared more widely. Such specification facilitates inclusion of modules across programmes.
- 3.3.12 The preferred level of mathematics for admission to some programmes should be clearly identified. A support arrangement should be devised for candidates with a lower level of mathematics (e.g. the Computer Networks programme). The risk of student failure should be recognised and addressed appropriately.
- 3.3.13 A consistent approach for student projects should be developed and adopted. For example, a pool hour could be agreed during which supervisors move between student projects and review student progress. Ideally each student project would be reviewed at least once by every supervisor. The final grade could reflect the final documentation, the presentation and the review process.


- 3.3.14 The IT Sandbox facility should be developed both as a learning space for students and as a promotional area for the IT discipline.
 - 3.3.15 There should be a stronger emphasis on the development and application of soft skills throughout the programmes. (e.g. There should be more attention to developing communication skills. Writing/presentations by students is problematic across the sector.)
 - 3.3.16 Efforts at student recruitment should be generally increased and directed to include more female candidates. (Gender balance should be considered.) Student ambassadors should be assigned. Links from industry web-pages to LIT web-pages and YouTube clips (e.g. students' projects) should be considered.
 - 3.3.17 There should be adequate access for all students to up-to-date appropriately-specified computers. The most up-to-date software & hardware is essential. The lifecycle refresh needs to be reduced to three or four years.
 - 3.3.18 Ethics should be embedded into all modules as appropriate on the Business Computing programmes as discussed during the visit.
 - 3.3.19 There should be a stronger emphasis on wireless technology in the Computer Networks programme.
 - 3.3.20 Consideration should be given to changing the title of the IT Customer Service module to IT Customer Experience.
 - 3.3.21 Consultations should be arranged with the LIT marketing department on programme titles. (e.g. *Bachelor of Science (Ordinary) in Internet Systems Development* may be more meaning for potential applicants as *Bachelor of Science (Ordinary) in Computing in Internet Systems Development*.)
 - 3.3.22 The inclusion of an interview in the application process for the Springboard programmes should be considered. (Attrition may then be reduced.)
 - 3.3.23 The title of the Platform Game Development module should be changed to Cross-Platform Game Development
 - 3.3.24 The balance between creative and technical skill development should be carefully monitored in the *Bachelor of Science (Honours) in Interactive Digital Media* programme, particularly at stage-four.
- 3.4 Commendations and Observations
- 3.4.1 The panel commended the engagement of staff throughout the programmatic review process. In addition, the Panel had a very positive and critically constructive engagement with student representatives and industry representatives. The outcomes of these interactions are described in detail in the later stages of this report; overall both students and industry are highly supportive of the Institute and commended the Institute on many levels. These commendations reflect very well on the staff of the Institute.
 - 3.4.2 The panel complimented the teams on the volume and content of documentation. The panel did note that the updated approved programme schedules (APS) were supplied about mid-way during the visitation. They were distributed on the morning of the 16th June.

- 3.4.3 The panel were advised that many programmes were essentially unchanged for the next five years. Some operational changes such as semesterisation and a wider inclusion of work placements had been adopted. Indicative content in the modules may change by about ten per cent per year.
- 3.4.4 The panel welcomed the adoption of semesterisation for the programmes of the IT Department. (Semesterisation is centrally mandated in some institutions.)
- 3.4.5 The panel, and other stakeholders, supported the inclusion of work placement in the programmes of the IT Department.
- 3.4.6 The panel noted the progress achieved with a single academic calendar throughout the Institute.
- 3.4.7 The panel appreciated the very significant efforts and mutual benefits in the merger of the former Tipperary Institute and Limerick Institute of Technology. The cohesion within the IT Department was particularly commended. The panel noted that all programmes were not running in all locations.
- 3.4.8 The panel commended the inclusion of embedded certification in the programmes (e.g. CISCO).
- 3.4.9 The panel were particularly complimentary about the high employability among the graduates of the programmes. The high demand for IT skills was acknowledged. The programmes are fundamentally good.
- 3.4.10 The panel noted positively the efforts to promote module commonality between programmes. The related increase in efficiency was welcomed. The common first two years across a number of programmes was particularly noted.
- 3.4.11 Given the dearth of learning and tuition space on the Moylish campus, the panel welcomed the acquisition of the Coonagh facility and related resources.
- 3.4.12 The panel acknowledged the current severe financial and other constraints across the sector.
- 3.4.13 The panel noted that the taught programmes in the Department were at level-6, level-7 and level-8 only. The panel welcomed the response to the Springboard initiative.
- 3.4.14 The panel noted the strong emphasis on continuous assessment throughout the programmes. The panel observed that continuous assessment may sometimes 'overstate a student's ability'.
- 3.4.15 The panel strongly commended the practical hands-on and active learning approach throughout the programmes.
- 3.4.16 The panel noted the positive and effective integration of mature students in the programmes at LIT.
- 3.4.17 The panel welcomed the Limerick for IT initiative. The industry-driven approach is particularly commendable.
- 3.4.18 The panel were impressed by the student output on display in the multimedia computer laboratory.
- 3.4.19 The panel were supportive of the enthusiasm for and commitment to the annual Games Fleadh on the LIT Tipperary campus. The games publishing initiative was commended.
- 3.4.20 The panel noted that the Springboard students had a dedicated computer laboratory. The H.Dip. programmes are intense.

- 3.4.21 The panel commended the use of some mandatory modules as electives in other programmes. The viability of the modules and efficiency were improved.
- 3.4.22 The panel commended the arrangements with the further education sector, particularly the potential advanced placement with Limerick College of Further Education.

Signature of Chairperson and Date

- 3.4.16 The panel noted the positive and effective integration of mature students in the programmes at LIT.
- 3.4.17 The panel welcomed the Limerick for IT initiative. The industry-driven approach is particularly commendable.
- 3.4.18 The panel were impressed by the student output on display in the multimedia computer laboratory.
- 3.4.19 The panel were supportive of the enthusiasm for and commitment to the annual Games Fleadh on the LIT Tipperary campus. The games publishing initiative was commended.
- 3.4.20 The panel noted that the Springboard students had a dedicated computer laboratory. The H.Dip. programmes are intense.
- 3.4.21 The panel commended the use of some mandatory modules as electives in other programmes. The viability of the modules and efficiency were improved.
- 3.4.22 The panel commended the arrangements with the further education sector, particularly the potential advanced placement with Limerick College of Further Education.

 25th July 2016
Signature of Chairperson and Date

APPENDIX