

**Report of Peer Review Group**

**Programmatic Review of Programmes**

**in**

**School of**  
**Science, Technology, Engineering & Mathematics**

**Department of**  
**Technology, Engineering & Mathematics**

**Institute of Technology**  
**Tralee**

**June 2014**

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# **Report of Peer Review Group Programmatic Review of Programmes in the - Department of Technology, Engineering & Mathematics-**

## **1 Introduction**

This report has been prepared by the Peer Review Group Panel (PRG) engaged by the Institute in accordance with Institute of Technology, Tralee's Quality Assurance Procedures.

The report is based in part on the documentation provided to the PRG by the Institute in the form of a Self-Evaluation Report (SER) and supplementary programme documents in respect of the Department of Technology, Engineering & Mathematics in the School of Science, Technology, Engineering and Mathematics. It is also informed by the Panel's deliberations following its visit to the Institute on 11<sup>th</sup> June, 2014 during which it met with Institute, School and Department management, Department and Programme teams and students as stakeholders.

The PRG undertook its task in accordance with the guidance provided by the Institute as specified in the Institute's Procedure and Guidelines for the Regular Evaluation of Programmes (IT Tralee QA Manual Section A7 which reflect the Quality and Qualifications Ireland (QQI) Provider Monitoring Policy and Procedures (HETAC, 2010).

This report is being presented to the Registrar of the Institute and it will be considered by the Institute's Academic Council and Governing Body for adoption.

### **1.1 TEM Peer Review Group Panel**

The PRG, established to consider the programmes being reviewed in the School of Science, Technology, Engineering & Mathematics - Department of Technology, Engineering and Mathematics, was constituted as follows:

<b>Dr. Dermot Douglas (Chair)</b> Former Director of Academic Affairs Institutes of Technology, Ireland
<b>Mr. Danny Brennan</b> Former Registrar Letterkenny Institute of Technology
<b>Dr. Tomas Norton</b> Harper Adam University
<b>Mr. Bobby Woods</b> KOSTAL
<b>Mr. Padraig Harty</b> ITTralee (Graduate)
<b>Mr. Pa McInerney</b> IT Tralee Current Student
<b>Dr. Noel Mulligan (Secretary to Panel)</b> ITTralee (Assistant Registrar)



## 1.2 TEM Peer Review Group Site Visit Agenda

The PRG site visit to consider the SER of the Department of TEM took place on 11<sup>th</sup> June, 2014.

The Agenda for the site visit was as presented below with some minor adjustments to accommodate the panel and the department:

<b><u>Thursday, 12<sup>th</sup> June 2014</u></b> <b><u>Agenda</u></b>	
<b>1.</b>	<b>Private Meeting of Assessors</b>
<b>2.</b>	<b>Session 1:</b> Meeting with President, Head of School and Head of Department:  a) School and department overview, strategic plans and resources b) Research activities, research degree programmes, collaborative activities.
<b>3.</b>	<b>Session 2:</b> Head of Department and Programme Delivery Team:  Review of programmes and proposed changes
<b>4.</b>	<b>Private Meeting of Assessors</b>
<b>5.</b>	<b>Session 3:</b> Meeting with stakeholders.
<b>6.</b>	<b>Private Meeting of Assessors</b>
<b>7.</b>	<b>Feedback to Department</b>

## 1.3 Introduction to Institute

The PRG Panel met with the President who provided the Panel with a brief profile of the Institute and an overview of recent internal and external developments as a context in which the Programmatic Review in the School of Science Technology, Engineering and Mathematics (STEM) and the Department of Technology, Engineering and Mathematics was taking place.

The last Programmatic Review was synchronised across all academic units as part of the Institute's introduction of its Modularisation and Semesterisation Framework. The current round of Programmatic Review is being undertaken across all programmes in each of the Institute's three schools. Certain circumstances prevented undertaking the review of programmes in the School of Business, Computing and Humanities alongside the other two schools at this time and this will now be completed in the academic year 2014/15.



The President outlined how the Governing Body approved the restructuring of the Institute's academic units with the new structure coming into effect in the academic year 2012/13. The three-school structure remained but the opportunity was taken to reconfigure departmental make-up of Schools that was most likely to create and support synergies that would enhance the effectiveness of the Institute in its programme offerings at undergraduate and postgraduate level. The restructuring was also made in the context of external developments to which the Institute needed to respond.

The Institute's new schools are now as follows:

- **School of Business, Computing & Humanities**
- **School of Science, Technology, Engineering & Mathematics**
- **School of Health & Social Sciences**

The Panel noted the benefits that the President outlined had already begun to flow from the restructuring over the course of the past two academic years. Development and delivery of modularised and semesterised programmes is more easily managed where sharing of modules and content sustains and enhances the viability of programmes that benefit students.

#### **1.4 PRG Meeting with President and School Executive on the Institute-Level and School-Level Context of Programmatic Review**

The Programmatic Review SER documentation provided by the Institute in respect of the Department of TEM referred to the Institute-level and School-level context against which the Programmatic Review was being undertaken. This Institute-level and School-level background was further explored in the Panel's meetings with the President and the School Executive and also in its meetings with the Department and Programme teams.

The Panel noted the national context the President set out against which the Institute is undertaking Programmatic Review not only in the School of STEM but across the Institute's full suite of programme offerings in all three schools.

The higher education landscape and indeed the economic climate in Ireland, have created a particular set of circumstances in which the Institute must review its past achievement and plan its future development. Change in the approach to programme provision is inevitable as a result of the new landscape and climate as outlined below.

Central to the Institute's planning process is the development and implementation of a revised strategic planning process. The Institute is currently aligning its new Strategic Plan to the three-year lifecycle of the Higher Education Authority's 'Mission-based Performance Compact' which it has agreed with the Institute. This will allow for the setting and management of Key Performance Indicators (KPIs) to meet the Higher Education Authority (HEA) requirements and the Institute's own goals and targets. The three-year timeframe aligns well with other developments in higher education (e.g. pathway to Technological University Designation) and is more realistic in the current fluid economic environment. The new Institute Strategic Plan is under development.

The Institute will, in future, be planning programme developments in collaboration with other higher education providers in the South Regional Cluster. This is to provide for the coherent



development of programmes across the country and the region in particular. The Institute is positioning itself to be able to engage with this new environment in an efficient and effective manner.

The Institute has just launched its '*Research, Development and Innovation - A Strategy for 2014-2016*' document. This strategy document has a three year timeframe that is particularly relevant in the context of a rapidly developing higher education and research landscape. KPIs are central to the governance and implementation of the strategy. Again, the three-year timescale aligns well with the Institute's other governance and management approaches and timelines. The alignment and integration of the Institute's research strategy with taught programme provision has been enhanced.

The Panel noted that the Institute recently presented its Stage 2 Submission to the HEA in its bid to establish the Munster Technological University in collaboration with Cork Institute of Technology. This is a significant development in the Institute's history and is intended to positively influence the future development of higher education, both in the region and nationally.

## **2 The School of STEM and Department of TEM Self-Evaluation Process**

The opportunity presented by the synchronisation of Programmatic Review across the Institute Schools was taken by the Office of the Registrar to identify and propose a common approach and methodology for Programmatic Review. This was explored with the Executive Committees in the three schools and an agreed approach was adopted. The Institute Quality Assurance Section A7 '*Procedures for the Regular Evaluation of Programmes*' was referenced and provided the framework for the schools and, in the case of the School of STEM, for its two departments to undertake the Self-Evaluation Process in preparation for the PRG visit and assessment.

The Panel noted that the School's two departments followed the same methodology and that this aligned with that of the School of Health and Social Studies.

### **2.1 Introduction to School and Department**

The newly established School of Science, Technology, Engineering and Mathematics (STEM) comprises two Departments. One of these, the Department of Technology, Engineering and Mathematics (TEM) hosts Agriculture, Manufacturing and Civil Engineering programmes. The newly named Department of TEM is effectively the same as before in terms of staff team, resources and programme portfolio.

This report relates exclusively to the review of TEM Programmes.

The other department in the School of STEM, the Department of Biological & Pharmaceutical Sciences (BPSc) encompasses the Institute's programmes in the areas of field & laboratory biological and environmental & pharmaceutical sciences. The Programmatic Review undertaken by this latter department was the subject of a separate PRG evaluation process run in sequence with the review reported here with the some Panel members sitting on both PRGs.



The last Programmatic Review undertaken saw the review of the programmes in the two STEM departments being undertaken as part of two different school review (TEM originating from the School of Engineering; BPSc originating from the School of Science and Computing), each with a different character and with a different emphasis.

Certain synergies have been facilitated by combining the discipline areas in TEM and BPSc within the School of STEM. This is evidenced for example by the major reconfiguration of most of the programmes undertaken in both departments in the academic year 2012/13. This is particularly so in the development of the new programme in Agricultural Science which combines significant levels of staff expertise from the two departments. This has seen an engagement of staff from the two departments in the development and the on-going delivery of this new successful programme. Other collaborations are being explored. Improvements in effectiveness and efficiencies have been achieved more generally from a shared approach to programme development and delivery across the two departments.

The good practice developed independently over the years by the two departments is being disseminated across the school.

## 2.2 Programme Team

The members of the Department of TEM in attendance were as follows:

<b>Dr Joseph Walsh</b>	Head of School of STEM
<b>Dr Brendan O Donnell</b>	Head of Department of TEM & BPSc
<b>Mr Chris O Donoghue</b>	TEM
<b>Ms Ann Marie Courtney</b>	TEM
<b>Mr Michael Foley</b>	Bus
<b>Dr Patrick Carney</b>	TEM
<b>Mr Fergal O Sullivan</b>	TEM
<b>Dr James Prendergast</b>	TEM
<b>Mr Gary Fort</b>	TEM

## 2.3 List of Programmes on Order in Council

The portfolio of programmes listed on the Institute's Order in Council attached to the Department of TEM at the time of the Programmatic Review is presented below. This included programmes proposed for revalidation (bold) and those that the Institute proposes to retire or terminate (greyed).

<b>Higher Certificate in Engineering in Agricultural Engineering (120 credits)</b> Revalidate as Exit Award
<b>Higher Certificate in Engineering in Civil Engineering (120 credits)</b> Replace/Retitle as Higher Certificate in Engineering in Civil & Environmental Engineering and Revalidate as Exit Award in Bachelor of Science in Energy Technology and the Built Environment
<b>Higher Certificate in Engineering in Mechanical Engineering (120 credits)</b> Replace/Retitle as Higher Certificate in Engineering in Manufacturing Engineering and Revalidate



as Exit Award in Bachelor of Engineering in Manufacturing and Mechatronic Engineering

**Bachelor of Science in Food Science with Innovation (180 Credits)**

Revalidate

**Bachelor of Science (Honours) in Agricultural Engineering Management (60 Credits)**

Reconfigured from 90 ECTS to 60ECTS **Bachelor of Science (Honours) in Manufacturing**

**Engineering Management (60 Credits)**

Reconfigured from 90 ECTS to 60ECTS **Bachelor of Engineering in Civil and Environmental Engineering (180 Credits)**

Revalidate

**Bachelor of Science (Honours) in Renewable Energy & Energy Management (60 Credits)**

Revalidate

**Bachelor of Science in Agricultural Science (180 Credits)**

Revalidate

**Bachelor of Engineering in Agricultural Engineering (180 Credits)**

Revalidate

**Bachelor of Science in Energy Technology and the Built Environment (180 Credits)**

Revalidate

**Bachelor of Engineering in Manufacturing and Mechatronics Engineering (180 Credits)**

Revalidate

**Bachelor of Science Advanced Wood Technology & Sustainable Construction (180 Credits)**

Revalidate

**Certificate in Quality Management, Tools and Techniques in Practice (30 Credits)**

Revalidate

**Certificate in Industrial Instrumentation and Automation (35 Credits)**

Revalidate

## 2.4 PRG Review of SER Documentation and Meetings with School Executive and Department & Programme Teams

The process of PRG Programmatic Review Assessment involves four elements undertaken in accordance with the Institute's Quality Assurance Procedures.

The first phase sees the School undertake a self-evaluation process in respect of the portfolio of programmes being reviewed and proposed for revalidation. This self-evaluation process involves the production of a comprehensive Self-Evaluation Report (SER) with supporting documentation.

The second phase involves the Panel reviewing the SER documentation and includes a site visit to the Institute where the Panel engage with the Institute team responsible for the portfolio of programmes to discuss the programmes presented for revalidation and confirming that the Aims and Objectives of the Programmatic Review are met.

The third element in the process sees the PRG produce a Report of the Programmatic Review that it submits to the Institute.

The fourth and final phase involves the Institute team responsible for the SER responding to the Panel's Report and undertaking to address conditions and recommendations. An addendum to the PRG report indicating that it is satisfied with the response (particularly to conditions of validation) is attached and forwarded along with the School's response for consideration and ratification by Academic Council and Governing Body.

#### **2.4.1 PRG Review of SER Documentation**

The PRG dealing with the Department of TEM studied the '**STEM – Department of Agriculture, Manufacturing and Civil Engineering – Programmatic Review 2008- 2013**' report.

The contents of the SER was set out as follows in accordance with an agreed Institute template:

Chapter 1	Methodology
Chapter 2	Context and School Developments
Chapter 3	Learner Profile, Access, Transfer & Progression
Chapter 4	National & International Links
Chapter 5	Human & Physical Resources
Chapter 6	Links with Business, Industry & Community
Chapter 7	Research
Chapter 8	Teaching, Assessment & Learning
Chapter 9	Assessment Strategies
Chapter 10	Programme Review Summary
Chapter 11	Strategic Plan

Hard copies were also provided of the following proposal documents:

- BSc (Honours) in Manufacturing Engineering (60 Credits);
- BSc (Honours) in Agricultural Engineering (60 Credits);

The Institute also provided the following supplementary documentation for completeness in electronic form and in hard copy on the day of the site visit;

- BEng in Civil and Environmental Engineering (180 Credits);
- BEng in Manufacturing and Mechatronics Engineering (180 Credits);
- BSc in Advanced Wood Technology with Sustainable Construction (180 Credits);
- BEng in Agricultural Engineering (180 Credits);
- BSc in Energy Technology & the Built Environment (180 Credits).

The Panel members individually and collectively considered the documentation in detail before meeting the Institute, School and Department and Programme Teams.



The following were the main observations made by the panel based solely on the SER documentation provided in advance of the site visit:

- The SER outlined how a major restructuring and validation of TEM programmes was undertaken in academic year 2012/13;
- The core SER document was based on a common approach and methodology applied across the School of STEM and the SER for both TEM and provided to the PRG reviewing the BSc programmes were substantially the same;
- Certain sections of the SER could have been more comprehensive in scope and detail;
- The SER documents needed to provide additional detail in term of analysis such that the Panel could see how the Department's review of the past 5 years and its plan for the coming five year period was supported by documented evidence;
- Where statistics (on intake, progression, retention etc.) were presented, the information was based solely on overall School data and needed to provide additional granularity in relation to individual programmes to allow for trends at programme level to be determined;
- Some necessary benchmarking of Programme Outcomes in the supplementary programme documents was noted and was discussed with the programmes team for clarification;
- The SER was seen to address Research in the School of STEM and Department of TEM well and reflected a dynamic response to industry research needs and showed the School and the Department to be well positioned to provide research, development and innovation services of a high quality and to draw on this to inform the taught and research programme provision;
- While KPIs are included in the SER they could (and, in the future, should) be referenced and developed further as the SER needs to be a reference document against which to measure future achievements year on year and in the particularly in the lead up to the next Programmatic Review;
- It was noted that the TEM Programmatic Review encompassed all the programmes validated as part of the review of programmes undertaken in 2012/13 and the panel requested and received the full documentation for all these programmes. It was noted that all these programmes were being submitted for revalidation by the PRG, even if there were no changes being proposed. It was noted that there were unlikely to be any issues with these new programmes. Their revalidation as part of Programmatic Review would synchronise the date for their future revalidation;
- The Panel also noted that certain programme of the Institute's Order in Council were being retired/terminated and were not being revalidated for future delivery;
- A comprehensive list of Approved Course Schedules should have been provided for all programme being revalidated;
- The proposal to revalidate two existing programmes as follows:
  - BSc (Honours) in Agricultural Engineering Management (90 Credits)
  - BSc (Honours) in Manufacturing Engineering Management (90 Credits)to two 60 ECTS BSc (Honours) degrees was discussed.

It is noted that these programmes involve substantial changes in both structure and contents. These proposals were explored in more detail with the department and programme teams to identify the extent of the proposed changes and the viability of revalidating changes of this magnitude and nature in the context of a Programmatic Review process.



## **2.4.2 Meetings with School Executive and Department & Programme Teams**

### **2.4.2.1 Meeting with School Executive**

The Panel explored the issues it identified in its review of the SER documentation with the School Executive. In response to the issues noted, the Head of School and Head of Department brought the following to the attention of the PRG;

- Reference to MTU in the SER was not seen as important as the Programmatic Review Process and programme planning for the future was seen as being independent of the TU process until such time as the merger with CIT was underway. However, the panel was of the view that Programme review should have included some mention of the major change affecting development and validation of new and existing programmes in the context of regional clusters and the HEA compact.
- The significant work undertaken in the academic year 2012/13 was effectively fulfilled the objectives of a programmatic review in relation to programme updates. A significant modernisation of the department's programmes portfolio, including a restructure and realignment of programmes to the needs of the market place for graduates was undertaken at that time. This review could have perhaps been described in more detail in the SER. The documentation developed last year in support of the restructuring provided significant evidence in support of the changes effected at that time and is still currently relevant;
- An improvement in programme viability and quality was achieved as a result of the revisions instituted following last year's review and restructuring process;
- Advances have been made in the School of STEM in terms of research collaborations and capacity building;
- Support from industry partners in the form of scholarships for undergraduate programmes is now being used a way of stimulating interest in programme areas which have experienced a significant decline. This is being done to create a supply of graduates to meet the downstream demand expected as recovery in these sectors begins to emerge;
- Statistical analysis in the SER was presented in consolidated form and was difficult to disaggregate as some of the programmes had small numbers that made statistical analysis of trends difficult. This matter should be revisited as required to ensure greater clarity;
- A reference to the use of KPIs was included in the SER. However, few KPIs were presented. It is acknowledged that other metrics served as a proxy for KPIs in the past and these were considered in support of the review;
- The statistics on intake, progression and retention are complex and do not reflect the way in which the School and Department manage to deliver programmes to small cohorts that would otherwise appear in pure statistical terms to be non-viable. The effective common entry strategy and the sharing of modules that are in place should be described in more detail in the SER narrative and the use of colour coded table showing module sharing would assist in this;
- Some clarification was provided on request to the Panel in the form of supplemental documents with regard to mapping the Programme Outcomes to the NFQ and the constituent modules of programmes;
- The proposed reconfiguration of the two programmes,
  - BSc (Honours) in Agricultural Engineering Management (90 Credits)
  - BSc (Honours) in Manufacturing Engineering Management (90 Credits)was subject to some additional discussion.

#### **2.4.2.2 Meetings with Department & Programme Teams**

The Panel met with the wider departmental and programme teams and systematically reviewed the SER and the supporting programme documentation. The following is a summary of the main issues raised and discussion around these:

##### Optimisation of Semesterisation:

- Following the last Programmatic Review, and the establishment of the Modularised and Semesterised Programme Framework, the Institute undertook a review of implementation of the new framework and reported to Academic Council after a cycle of implementation;
- This review led to some adjustments including the replacement of the Institute-wide use of Education Broadening Modules. Otherwise the framework was seen to be appropriate.

##### Response to the last Programmatic Review Report Recommendations

- The detail of some of the responses to recommendations needed to be clarified to ensure that there was a more meaningful follow up to the actions recommended;
- This was noted and will be addressed.

##### Programme Documentation in respect of Programmes restructured and validated in 2012/13

- The Panel requested to have hard copies of this documentation provided to allow for the revalidation of the full TEM Programme Portfolio as part of the review;
- The Institute provided the relevant documentation in electronic format in advance of the Site Visit and in hard copy on the day of the visit.

##### Programme Retirements

- A list of those programme on the current Order in Council to be retired was requested;
- The list of programmes being retired was provided.

##### Engineers Ireland (EI) Validation of Programme Revisions Proposed

- EI revalidation of programmes will be required and needed to be provided for in the planning of revalidation generally;
- The Institute has always addressed EI validation processes in a systematic way.

##### Drop in Numbers of Mature Students

- The reason for the recent decline in the numbers of matures was not clear;
- Clarification provided that a changing pattern of applications from matures was in part due to changes in the construction industry environment.

##### Postgraduate Research Degree Registrations

- Numbers of postgraduate research degree registrations presented in the documentation will be corrected.

##### Peer Assisted Learning

- Benefits noted of the departments' PAL initiative for students experiencing difficulties with key subjects;
- Explanation was provided on how PAL is working, and its benefits.

##### Joint Academic Workshops (JAWs) meetings with Students



- JAWs meetings are used for student feedback and few issues appear to be raised;
- Most student issues tend to be addressed before they ever get on the JAWs agenda as the department has a very open-door approach to its engagement with students.

#### International Students

- Outgoing Erasmus numbers are generally low; this is not unusual for TEM;
- 'Science Without Borders' as an initiative to bring in international students is proving very successful.

#### Staff CPD

- Generally the School and Department has been successful in reassigning staff in response to changing programme portfolio in a department that has been adversely affected by the downturn in civil engineering and construction employment opportunities.

#### Research Metrics

- Noted that the information provided around research metrics needed to be re-examined and more clearly presented;
- Institute Research performance is measured in terms of IOTI research outputs rather than research publications;<sup>1</sup>
- Research publications will be enhanced in future as the scale of research activity grown in the Institute's Research Centres.

#### External Examining of Undergraduate Programmes

- External Examiners' Reports provide insights for action;
- Programme Boards follow up on reports and address issues systematically.

#### Examination Results Publication in a Semesterised Structure

- How does Institute approach the issues around the publication of end of odd Semester results and the eventual review of borderline cases at the end of academic year;
- This is a sector wide issue and addressed sensitively, where appropriate, and is under constant review to ensure fairness and equity.

#### Retention Strategies

- More information needed to be incorporated into the SER around how retention strategies are implemented;

#### SER and Programme Documentation

- It was noted that a number of amendments are required in certain parts of the documentation that should be addressed for the record to ensure that accurate information is provided;

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<sup>1</sup> Sustaining and Growing the Delivery of Strategically Oriented, Impact Focused Research, Development and Innovation in the Institutes of Technology. IOTI, April 2013



The Panel was afforded an opportunity to meet with a group of TEM students as follows:

Brenda O Sullivan Level 7 Undergraduate Programme Student
Stafano Sabbatuci Level 8 Undergraduate Programme Student
Adrian Locke Level 9 Research Degree Programme Student

The following is noted from a discussion around the students' experience:

- Students were generally satisfied with their experience of their programmes and of the department resources and supports;
- Work Placement is regarded as very valuable;
- The 1.5 year Add-on Level 8 programme is unattractive even if it is a good programme;
- The Project Module has provided a valuable learning experience;
- Students are generally supportive of the changes to the content of the revised programme as it will match the skill sets they understand are needed for employment;
- Students are happy to participate in PAL without academic credits and can see the benefit it provides to students in difficulty in earlier years of the programmes. It is also a useful addition to a curriculum vitae.

### 2.4.3 Findings

The following is a summary of the findings of the Panel based on:

- Its review of the SER documentation;
  - Its meeting with the School Executive and its response to the questions raised by the Panel;
  - Its meetings with the department and programme teams and the detailed consideration of the SER documentation;
  - Its meeting with a group of TEM students.
- The SER requires some additional detail in regard to the Self-Evaluation Process being followed;
  - The SER should have provided more analysis of statistical evidence in support of the review of programmes being presented for revalidation;
  - A compilation of Approved Course Schedules (existing and proposed) to be provided for all the programmes for which revalidation was being sought. These need to be extracted and presented separately;

### 2.4.4 Recommendations

- Agricultural Engineering and Manufacturing Awards

The Panel understood the rationale for submission of these programmes to the Programmatic Review Process. Following detailed examination of the changes made the panel concluded that these were of such an extent that the programme would require validation through the Institute's new programme mechanism rather than re-validation under Programmatic Review. The Institute should present the following programmes for full validation in accordance with the Institute's QA procedures:

- BSc (Honours) in Agricultural Engineering Management (60Credits);

- BSc (Honours) in Manufacturing Engineering Management (60Credits).

These programmes are not being revalidated as this is seen to be outside the Panel's remit.

#### **2.4.5 Conditions**

- Review and edit all Programme Schedules for completeness and accuracy.
- Revise module titles in the new Programme document to ensure consistency and accuracy.
- In the new document align module outcomes to Programme outcomes, and Programme outcomes to QQI Benchmark Statements (published as HETAC Standards on the QQI website) at the appropriate level on the National Framework of Qualification.
- Provide analysis of enrolment, examination success and progression to the next academic year for each Academic Programme.
- Provide an analysis of completion rates, number entered in 1st year versus number graduated with award, for each individual programme subject to this review.
- From the analysis of retention and completion indicate the strategies that will be adopted by the School to address issues raised.
- A summary document addressing these conditions to be made available to the PRG for agreement prior to the final report being submitted to Academic Council.

### 3 Programmatic Review in Context of Institute Quality Assurance of Regular Evaluation of Programmes

#### 3.1 Achievement of Improvement in Programme Quality

<i>Consideration for the panel:</i>	Is there evidence of a review of the development of the programmes over the previous five years with particular regard to the achievement and improvement of quality
<i>Overall Finding:</i>	Yes. Note that there are recommendations on how the SER should supplemented.

#### **Recommendation(s):**

See Section 2.2.4

- Supplement the SER document to properly capture and present statistical trend analysis, and more detail in the response to some of the recommendations of the last Programmatic Review Report;
- The supplement to SER should also address other amendments identified in this report including the supplementation of the SER with the relevant references to 2012/13 Programme Validation Documents.

#### **Condition(s):**

None

#### 3.2 Meeting the changing needs of stakeholders

<i>Consideration for the panel:</i>	Is there an evaluation of the flexibility of the School/Department to the changing needs of students, employers and to all stakeholders in the process?
<i>Overall Finding:</i>	Yes.

#### **Recommendation(s):**

None

#### **Condition(s):**

None



### 3.3 Range and Mix of Assessment Procedures

<i>Consideration for the panel:</i>	<ul style="list-style-type: none"> <li>Is there a review of the range and mix of assessment procedures experienced by participants on the various programmes?</li> </ul>
<i>Overall Finding:</i>	Yes.

#### **Recommendation(s):**

See Section 2.2.4

- Review the Programme Outcomes in the programme documentation to ensure articulation and benchmarking of programme standards;
- Append to the Programmatic Review SER documentation Approved Course Schedules for all programmes being revalidated;

#### **Condition(s):**

None

### 3.4 Viability of Future Developments

<i>Consideration for the panel:</i>	<ul style="list-style-type: none"> <li>Is there a review of the plans for future developments and assessment of the viability of these developments?</li> </ul>
<i>Overall Finding:</i>	<p>Yes.</p> <p>Note that there are recommendations on how the SER should supplemented.</p>

#### **Recommendation(s):**

See Section 2.2.4

- Provide a supplement to the SER document to properly capture and present statistical trend analysis; provide a brief commentary on the relevance and potential impact over the next quinquennium of the regional cluster of HEIs, the ITT/HEA compact and MTU development; and more detail in the response to some of the recommendations of the 2008 Programmatic Review Report;
- Where KPI are referenced ensure that these are presented in a way that supports future monitoring and review of goals and targets.

#### **Condition(s):**

See Section 2.2.5

- The Institute should present the following programmes for full validation in accordance with the Institute's QA procedures:
  - BSc (Honours) in Agricultural Engineering Management (60Credits);
  - BSc (Honours) in Manufacturing Engineering Management (60Credits).

These programmes are not being revalidated at this time.

### 3.5 Programme Effectiveness and Efficiency

<i>Consideration for the panel:</i>	Is there an analysis of the effectiveness and efficiency of each of the programmes approved under the following headings: <ul style="list-style-type: none"> <li>○ Access, transfer and progression</li> <li>○ Retention</li> <li>○ Award Standards and Outcomes</li> <li>○ Programme structure</li> <li>○ Learning and Teaching Strategies</li> <li>○ Assessment Strategy</li> </ul>
<i>Overall Finding:</i>	Yes. Note that there is a recommendations on the inclusion of more detail in the SER.

**Recommendation(s):**

See Section 2.2.4

- Review the Programme Outcomes in the programme documentation to ensure proper articulation and benchmarking of programme standards;

**Condition(s):**

None

### 3.6 Physical Facilities

<i>Consideration for the panel:</i>	Is there an evaluation of the physical facilities provided by the Institute for the provision of the programmes, under the following heading: <ul style="list-style-type: none"> <li>○ Resource requirements</li> </ul>
<i>Overall Finding:</i>	Yes.

**Recommendation(s):**

None

**Condition(s):**

None



### 3.7 Research Activities

<i>Consideration for the panel:</i>	Is there a review of the School's / Department's <u>research activities</u> ?
<i>Overall Finding:</i>	Yes. Note that there is recommendations on how the SER should supplemented in respect of KPIs.

#### Recommendation(s):

See Section 2.2.4

- Where KPI are referenced ensure that these are presented in a way that supports future monitoring and review of goals and targets.

#### Condition(s):

None

### 3.8 Formal Links

<i>Consideration for the panel:</i>	Is there an evaluation of the <u>formal links</u> the school and institute have established with industry / business and the wider community in order to maintain the relevance of its programmes <ul style="list-style-type: none"> <li>○ Regional, National, International</li> <li>○ Work Placement, Internship, etc.</li> </ul>
<i>Overall Finding:</i>	Yes.

#### Recommendation(s):

None

#### Condition(s):

None

### 3.9 Programme Structure

<i>Consideration for the panel:</i>	Is the programme structure logical and well designed and can the stated programme intended learning outcomes in terms of employment skills and career opportunities be met by these programme?
<i>Overall Finding:</i>	Yes. Note that there is a recommendations on the inclusion of more detail in the SER.

#### Recommendation(s):

See Section 2.2.4

- Review the Programme Outcomes in the programme documentation to ensure proper articulation and benchmarking of programme standards;

#### Condition(s):

None

### 3.10 Module-Level Findings

The Panel considered the module descriptors for two programmes proposed for validation that had not be subjected to a review and validation in 2012/13. The Panel did not consider the Module Descriptors for those programmes validated in 2012/13 as no proposed changes were being made to these.

<i>Consideration for the panel:</i>	Have the Panel made comments in relation to the module descriptors?
<i>Overall Finding:</i>	Yes. The Panel discussed the detail of Modules Descriptors where changes were proposed.

#### Recommendation(s):

None

#### Condition(s):

See Section 2.2.5

- The Institute should present the following programmes for full validation in accordance with the Institute's QA procedures:
  - BSc (Honours) in Agricultural Engineering Management (60Credits);
  - BSc (Honours) in Manufacturing Engineering Management (60Credits).

### 3.11 Stakeholder Engagement

The Panel met with a group of graduates and in its discussions with the Institute and School and Department Executive and the Departmental and Programme Teams the Panel was of the view that there was appropriate engagement and consultation with Stakeholders.

#### Recommendation(s):

None

#### Condition(s):

None

## 4 Future Plans

<i>Consideration for the panel:</i>	Evidence that the programme board considered and identified opportunities and signalled proposals for related new programme and award development.
<i>Overall Finding:</i>	Yes.

#### Recommendation(s):

None

#### Condition(s):

None



## **5 Revalidation of TEM Programme Portfolio**

The PRG considered the proposals made by the Institute in respect of the revalidation and retirement of programmes currently on the Institute's Order in Council. A number of the programmes listed were validated in 2013 and are recommended for revalidation for the five year period to the end of Academic year 2018/19.

A number of programmes are no longer being offered as they are superseded, replaced by other programmes or are now being discontinued. These programmes are not being revalidated and will be removed from the Order in Council.

Two programmes which were proposed for amendment were considered, and the Panel decided that it was not within its remit to revalidate the revised programmes as presented and there was no viable way of revalidating these.

The panel agreed to the changes in module titles being proposed and to the changes in module content as outlined in the new programme document.

## 5.1 Programmes Recommended for Revalidated

The Panel recommend that the list of programmes below are revalidated for a five year period.

**Higher Certificate in Engineering in Agricultural Engineering (120 credits)**

**Higher Certificate in Engineering in Civil Engineering (120 credits)**

Replace/Retitle as Higher Certificate in Engineering in Civil & Environmental Engineering

**Higher Certificate in Engineering in Mechanical Engineering (120 credits)**

Replace/Retitle as Higher Certificate in Engineering in Manufacturing Engineering

**Bachelor of Science in Food Science with Innovation (180 Credits)**

**Bachelor of Engineering in Civil and Environmental Engineering (180 Credits)**

**Bachelor of Science (Honours) in Renewable Energy & Energy Management (60 Credits)**

**Bachelor of Science in Agricultural Science (180 Credits)**

**Bachelor of Engineering in Agricultural Engineering (180 Credits)**

**Bachelor of Science in Energy Technology and the Built Environment (180 Credits)**

**Bachelor of Engineering in Manufacturing and Mechatronics Engineering (180 Credits)**

**Bachelor of Science Advanced Wood Technology & Sustainable Construction (180 Credits)**

**Certificate in Quality Management, Tools and Techniques in Practice (30 Credits)**

**Certificate in Industrial Instrumentation and Automation (35 Credits)**

## 5.2 Programmes Requiring Full Validation Review

The Panel was not in a position to revalidate the programmes below as the extent of the changes proposed require that the programmes be subjected to a full validation review process:

**Bachelor of Science (Honours) in Agricultural Engineering Management (60 Credits)**

**Bachelor of Science (Honours) in Manufacturing Engineering Management (60 Credits)**

On the basis of its review of the documentation provided, and meetings with the relevant members of staff, the panel recommends the re-validation of awards as on the order in council until the next Programmatic Review.

## 6 Approval of PRG Panel Report By:

Signed:

  
Chairperson

Date:

14/05/2014