

**Report of Peer Review Group**

**Programmatic Review of Programmes**

**in**

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

**Department of**  
**Biological and Pharmaceutical Sciences**

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

**June 2014**

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# **Report of Peer Review Group Programmatic Review of Programmes in the - Department of Biological and Pharmaceutical Sciences-**

## **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 Biological and Pharmaceutical Sciences (BPS) 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 13<sup>th</sup> June, 2014 during which it met with Institute, School and Department management, Department and Programme teams and students.

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 BPS Peer Review Group Panel**

The PRG, established to consider the programmes being reviewed in the School of Science, Technology, Engineering & Mathematics - Department of Biological and Pharmaceutical Sciences, 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>Dr. Stephen Fitzpatrick</b> Temmler (Irl) Ltd.
<b>Mr. Joseph Broderick</b> ITTralee (Graduate)
<b>Mr. Killian Kelly</b> IT Tralee (Current Student)
<b>Dr. Michael Hall (Secretary to Panel)</b> ITTralee (Registrar)



## 1.2 BPS Peer Review Group Site Visit Agenda

The PRG site visit to consider the SER of the Department of BPS took place on 13<sup>th</sup> June, 2014.

The Agenda for the site visit was as presented below.

<p style="text-align: center;"><b><u>Friday, 13<sup>th</sup> June 2014</u></b> <b><u>Agenda</u></b></p>	
1.	<b>Private Meeting of Assessors</b>
2.	<b>Session 1:</b> Meeting with President, Head of School and Head of Department: <ul style="list-style-type: none"> <li>a) School and department overview, strategic plans and resources</li> <li>b) Research activities, research degree programmes, collaborative activities.</li> </ul>
3.	<b>Session 2:</b> Head of Department and Programme Delivery Team: <p style="text-align: center;">Review of programmes and proposed changes</p>
4.	<b>Private Meeting of Assessors</b>
5.	<b>Session 3:</b> Meeting with stakeholders.
6.	<b>Private Meeting of Assessors</b>
7.	<b>Feedback to Department</b>

*Note: Session 1 was curtailed as the majority of the Panel had met with the President, Head of School and Head of Department on Thursday 12<sup>th</sup> to review the School's strategies, and research and collaborative activities. Additional time was allocated to meeting the academic delivery team.*

## 1.3 Introduction to Institute

The PRG Panel noted that most of the panel had already met with the President on the previous day (12<sup>th</sup> June) 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 Chairperson summarised the context of the Programmatic Review for the PRG Panel. The last Programmatic Review was synchronised across all academic departments as part of the Institute's introduction of its Modularisation and Semesterisation Framework.

The President had 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 composition of Schools 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 the 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 BPS 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 had 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 realistic in the current fluid economic environment. The new Institute Strategic Plan is currently under development.

The Institute will, in future, plan programme developments in consultation 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 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. 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 a particular focus of the RDI strategy.

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 BPS Self-Evaluation Process**

The Programmatic Review process was guided by the Institute's Quality Assurance procedures. 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.

### **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 Biological and Pharmaceutical Sciences (BPS) is effectively the same as before (then the Department of Chemical and Life Sciences) in terms of staff team, resources and programme portfolio.

This report relates exclusively to the review of BPS Programmes.

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 department was synchronised with that of the Department of TEM, which 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; BPS originating from the School of Science and Computing), each with a different character and with a different emphasis.

Certain synergies have now been facilitated by the combination of the discipline areas in BPS and TEM within the School of STEM. This is evidenced, for example, by the 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 BPS 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 & BPS
<b>Mr Michael Murphy</b>	BPS
<b>Dr Deirdre Enright</b>	BPS
<b>Dr. Fiona O'Flynn</b>	BPS
<b>Dr. Brendan McCarra</b>	BPS
<b>Dr. Geraldine Twamley-Stein</b>	BPS
<b>Ms Angela Kelly</b>	BPS
<b>Dr. Veronica Kennelly</b>	BPS
<b>Dr. James Walsh</b>	BPS
<b>Dr. Eugene Ross</b>	BPS
<b>Mr Jim Kelly</b>	BPS
<b>Ms Sandra Hanley</b>	BPS
<b>Dr. Patrick Carney</b>	TEM
<b>Therese Higgins</b>	BPS

## 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).

### **Certificate in Environmental Science (30 credits)**

Revalidate; Minor award linked to B.Sc. in Pharmaceutical Analysis with Environmental Science.

### **Certificate in Applied Biology and Chemistry (30 credits)**

Revalidate; Minor award linked to B.Sc. in Pharmaceutical Analysis with Forensics.

### **Certificate in Laboratory Techniques (30 credits)**

Revalidate; Minor award linked to B.Sc. in Pharmaceutical Analysis with Forensics.

### **Certificate in Pharmaceutical Techniques (30 credits)**

Revalidate; Minor award linked to B.Sc. in Pharmaceutical Analysis with Forensics.



**Higher Certificate in Science in Biological and Environmental Studies (120 credits)**

Revalidate

**Higher Certificate in Science in Environmental Science (120 credits)**

Revalidate as Exit Award in BSc. And BSc. (hons) in Pharmaceutical Analysis with Environmental Science

**Higher Certificate in Science in Pharmaceutical Analysis with Forensics (120 credits)**

Revalidate as Exit Award in BSc and BSc (hons) in Pharmaceutical Analysis with Forensics

**Higher Certificate in Science in Pharmaceutical Science with Cosmetics (120 credits)**

Revalidate

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

Revalidate

**Bachelor of Science in Pharmaceutical Analysis with Forensics (180 Credits)**

Revalidate

**Bachelor of Science in Pharmaceutical Analysis with Environmental Science (180 Credits)**

Revalidate

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

Revalidate

**Bachelor of Science (Honours) in Pharmaceutical Analysis with Forensics (240 Credits)**

Revalidate

**Bachelor of Science (Honours) in Pharmaceutical Analysis with Environmental Science (240 Credits)**

Revalidate

**Bachelor of Science (Honours) Pharmaceutical Analysis with Cosmetic Science (240 Credits)**

Revalidate

**Bachelor of Science (Honours) in Wildlife Biology (240 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 any 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 considered 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 Biological & Pharmaceutical Sciences – 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 Wildlife Biology (240 Credits);
- BSc (Honours) in Pharmaceutical Science;
- B.Sc in Pharmaceutical Science (180 Credits)
  - Including exit award, Higher Certificate in Science in Pharmaceutical Science

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

- Module descriptors

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 core SER document was based on a common approach and methodology applied across the School of STEM. The School element to the SER for both TEM and PBS was substantially the same and the Panel dealt with these together on the 12<sup>th</sup> June;
- 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 the Department of BPS 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 should be referenced and developed further as the SER needs to be a reference document against which to measure future achievements on a yearly basis, and in the particular, in the lead up to the next Programmatic Review;
- The Panel noted that certain programme of the Institute's Order in Council were being retired/terminated and therefore not being presented for revalidation and future delivery;
- Approved Course Schedules must have been provided for all programme being revalidated;

## **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;

- Advances have been made in the School of STEM in terms of research collaborations and capacity building;
- 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 do not fully reflect the way in which the School and Department manage to deliver programmes to small cohorts that would otherwise appear 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. The use of colour coded table showing module sharing was noted;
- 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;



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

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

Programme: B.Sc (Hons) WILDLIFE BIOLOGY

##### **(A) General description of programme**

- The Panel noted that the Wildlife Biology programme is a niche programme with relatively high CAO points profile, a broad applicant catchment, in particular from the East coast of Ireland, and with a significant mature cohort.
- Completion rates were reviewed and described. Students find career opportunities in conservation projects, ecology and in general environmental consultancies. Feedback from employers on students on placements has always been positive. Programme content and graduate knowledge remains current and this is a great strength of the programme in a changing sector.
- As funding for Higher Education Institutions will increasingly be performance based, the Panel scrutinised retention data. The trends in retention are relatively high as the cohort is particularly focussed and aware of the philosophy of the programme.
- Wildlife Biology as a title is attractive. However, the precise 'identity' of graduates is sometimes prone to query from employment sector as the students have much broader skills sets than the title might at first imply.
- The new module in Irish Wildlife was welcomed by the Panel.

##### **(B) Contact hours**

- The Panel discussed contact hours in relation to Research Project and Field Trips. The Wildlife Research Project 1 includes supervised fieldtrips (10 x 6hr trips). The Panel were content with clarifications received.
- Field trips were noted as a strength of the programme. Long term, the team would consider a week-long trip. This has been considered before as desirable to immerse student in detailed content and to enable travel further afield. It was noted that overnights are beneficial for group coherency and dynamics, which in turn may contribute to greater retention of the concept; however, this practice does present practical difficulties in timetabling, programme design, etc.

##### **(C) Module Changes**

The Panel reviewed modules and proposed changes. The academic team provided justification, additional detail and clarification as required.

- Biology 1 / Chemistry 1: Content reviewed. Second year modules Botany 1, Zoology 1 are continuations of the first year Biology content.
- Irish Wildlife: Module gives Irish wildlife context. It is factual, scientific and broad, providing depth and in context to field trips. The content is general, supplements Biology 1 & 2, and highlights species relevant to Irish environments. .

- Maintenance of a Wildlife Journal throughout the year was suggested to provide a practical element to the module content; to build up students' species knowledge and identification skills; to provide a mechanism that would allow students to reflect and integrate learning rather across a range of modules; and provide an assessable practical element to the module rather than rely solely on a final written paper. The academic team agreed to this suggestion. Web keys are used (concentrates on Irish) as is the national biodiversity data centre vascular plant recording scheme. The Panel suggested the team introduce concept of dichotomous keys in this module. Students are encouraged to purchase keys. The Panel suggested including bio-identification as part of assessment.
- ESM module; Reading list to be completed. The Panel noted that Statistics is covered in second year.
- Computer Applications and Scientific Communications. The academic team noted that computer skills training is still valid at this stage.
- Outdoor Education with minor in Aquatics is being re-titled to Outdoor Education with Experiential Learning 1. There was some discussion on how students might update their REC certification, it being out of date when students graduate. Boat handling skills are also included in this stage.
- Biology 2. The module was reviewed with minimal change.
- Field Biology and Earth Science (merged from two modules to incorporate Chemistry 2) incorporates one field trip to cater for the content which was previously delivered in two.
- Chemistry 2 module is incorporated into the programme to supplement chemistry in advance of environmental science modules.
- Outdoor Skills: Navigational / Mountain skills. The Panel noted that MS2 certification is not a pre-requisite for progression
- Physics: This module introduces instrumentation, environmental monitoring, etc. to students and is considered to be an important foundation for future modules.
- Botany 1: The module was reviewed with minimal change.
- Bio measurement: The module was reviewed with minimal change. The Panel suggest name change to Biostatistics 1.
- Environmental Science 2: The module was reviewed with minimal change.
- The Panel commented that module content was substantial and is supported by Chemistry 1/2 modules. Practicals are tailored to the specific student cohort. Sampling (e.g. environmental) is covered later in programme.
- Microbiology 1: The module was reviewed with minimal change.
- Zoology 1: The module was reviewed with minimal change. There is some repetition of Biology 1 / 2 but with greater detail.
- Botany 2: The module was reviewed with minimal change.
- Environmental Science 3 being retitled to Introduction to Ecology with some content change. Final written exam was recommended to be changed to practical field work (100% CA).
- Microbiology 2: The module was reviewed with minimal change.
- Zoology 2: The module was reviewed with minimal change.

#### (D) Special Regulations



- There was discussion in relation to linking learning outcomes to assessments such that the achievement of learning outcomes should clearly determine students' grades. It was noted that early CA can assess basic grasp of concepts (i.e. lower Blooms Taxonomy), while later CA assess analysis which is higher in Blooms Taxonomic classification. If this is the case then it should be made explicit in the linking of assessments to Learning Outcomes.

(E) Stage 3 modules:

- Ecology (Concepts) renamed to Ecology 1. Already an Introduction to Ecology. Recommendation re-sequence Ecology modules to numeric sequence. Ecology 1,2,3.
- Project Management and Environmental Monitoring 1 modules were reviewed with minimal change.
- Then Panel noted additional outcomes of the review to the modules in third year, including a relocated Habitat Studies Concepts module, and Research Skills was retitled to Research Skills and Methods. The module Wildlife Research methods was discontinued and the module Work Placement – Wildlife was retitled as Work Placement of which 10 credits was Pass / Fail. The Work Placement Documentation module is the graded element of work placement. The module Ecology 2 (subject to clarification should be Ecology 3) was re-titled from the original module Ecology (Applied). A new module, Habitat Studies 2 was introduced.

(F) Stage 4 Modules

- The modules in fourth year were reviewed individually. Modules included, Environmental Protection, Biodiversity, Wildlife Research Project 1, Land Use Management, Biological & Geographical Data Applications, Environmental Impact Assessment (this was discussed in some detail), Biodiversity Conservation, Wildlife Research Project 2, and Habitat Conservation Management

B.Sc. programmes in Pharmaceutical Analysis (with Specialisms)

(A) Low Number of Applications

- A high level of commonality supports efficient delivery of different programmes with low numbers. Capacity based on practical groups of 16 each.

(B) Progression rates

- Progression rates are improving. Students may leave due to poor results, financial problems or other reasons. The Leaving Certificate (LC) cohort appreciate the employment opportunities in this sector but sense that the discipline is difficult. In reality, the LC cohort generally don't have a clear concept of the significance of the Pharma Industry to the Irish economy (including who the leading companies are).
- The Panel noted that IT Tralee is supporting promotional drives through Sci-fest, Irish Science Teacher Association, School Visits, Public Media, etc.
- Promotion can involve programme titles too. A Poster campaign in the past did not realise increased applications. Chemistry practicals (LC), delivered to Leaving Certificate students by Department staff, did not translate into greater applications to this Institute. The Department has also established FETAC links.



- The Panel noted that guidance counselling service has been reduced in many schools. There is an opportunity for staff to become directly involved in providing Programme specific guidance in schools. While the Department has provided school visits, a recent phenomenon has been increased, short notice, cancellation of school visits to ITT, due to school (secondary school) staff shortages.
- A recent success has been the progression of springboard graduates, who took minor awards in laboratory sciences, to major awards and who performed very well thereafter.
- The catchment for Pharmaceutical programmes is primarily local (Munster).
- The department is developing a strategy to approach the low number of applicants: elements will include engagement with industry (e.g. students seeing what working with industry are like) through guest visits to ITT and to schools. The department's literature emphasises well-paying jobs, and Video clips and a marketing campaign have been developed. The Irish Science Teachers Association liaises with the Institute regularly to understand issues. The Panel appreciated that the Department team were actively looking for opportunities to promote programmes, and noted that the group of staff that deliver programmes in Agricultural Science, Wildlife Biology, Food Science and Pharmaceutical Analysis is relatively small.
- The Panel discussed the use of titles to attract students where content is similar across a suite. The programme consists of a core of pharmaceuticals and elective specialist areas, which, while helping to attract student applications, permit them, transfer specialisms after first year.
- The Panel made the point that one programme with specialist streams may not benefit by becoming several separate programmes. It may be necessary to look at options within the single programme that exploit several employment niches and market this rather than provide multiple, but very similar, programmes each with a different title. A common programme intake with different programme outputs is an elegant structure. There was acknowledgement that employers don't respond to programme titles in the same way as prospective student. Students respond to key words and the institute can combine intakes to deliver programmes in highly shared environment. Employers focus on student competence. It should also be noted that, despite multiple programme titles, there is only one award title.

#### (C) Level 9 / 10 Programmes

- Research activity is strong in the Department and attracts students from a predominantly national catchment. The Panel noted that Level 9 graduates provide a good way of raising the profile of the Institute.
- Fourth years can take on industry-related projects.
- The Industry representative on the panel commented that IT Tralee has a good reputation for Industrial engagement, while advising that 'attractive' programme titles do not necessarily work for industry.

The Panel reviewed modules and proposed changes. The academic team provided justification, additional detail and clarification as required.

#### (D) Module Changes



- The Panel focussed on new modules and reviewed each systematically from stage 1 to stage 4. The Panel noted that reading lists had been updated since the publication of the first SER, and thanked the Team for this work.
- The Panel noted that in the Cosmetics industry, the same industrial processes apply as in pharmaceutical processes. Lean and Six Sigma approaches, because of their current importance in manufacturing industry, is to be strengthened in the Pharmaceutical Industry QA module. In particular graduates need to know what is involved as this is a common question used when graduates are being recruited in the sector.
- The Project (Analytical) module was described in some detail. Students are given wider control of project management. All projects in third year are individual.
- Staff keep abreast of new technology by attending courses. The Institute has a CPD policy. An individual proposal process exists. Supervision of postgraduate and being involved in final year project activity contributes to CPD. The Team gave examples of how final year project 5 students linked to postgraduate activity.

(E) Response to the last Programmatic Review Report Recommendations

- The detail of some of the responses to recommendations needed to be clarified

(F) Programme Retirements

- The programmes not being submitted for re-validation have been deleted and the list in this report reflects those programmes for which continued validation is being sought.

(G) Postgraduate Research Degree Registrations

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

(H) 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.

(I) 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.

(J) Retention Strategies

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

(K) SER and Programme Documentation

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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

- 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; This can be addressed through a supplement to the SER.

The Panel was afforded an opportunity to meet with a BPS students as follows:

Michelle Barry Level 9 Research Degree Programme Student
Noel Dineen Level 9 Research Degree Programme Student

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

- The programme delivered what the students thought it was going to be.
- Most students who are going to leave early, do so in the first year.
- In relation to experience at undergraduate level in another higher education institution, the opinion was expressed that students on the Wildlife Biology programme appeared to have a significant amount of content condensed into quite a short time frame, and the level of detail seems high.
- The Wildlife Biology graduate has more to offer than the programme title may describe – perhaps the wildlife biology title doesn't reflect environmental, ecology, outdoor, etc., elements of programme. In short, the programme is broader / deeper than the title would imply and may not give justice to graduates when looking for employment. Employers need to know what programme learning outcomes / content is in a succinct and informative format.
- Additional support was not seen as an issue as the lecturers were always very helpful, approachable and knowledgeable.
- The students noted the need to integrate statistical analysis from the beginning of the research work.

### 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 BPS 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 to be provided for all the programmes for which revalidation was being sought.
  - These issues could be addressed in a supplement to the SER.

### 2.4.4 Recommendations



- Implement title changes in modules as discussed in meetings.
- Consider retitling the Bachelor of Science (Hons) in Wildlife Biology to BSc (Hons) in Wildlife Biology and Ecology.
- Consider retitling Higher Certificate in Biological and Environmental Studies to Higher Certificate in Science (Environmental Science).
- Consider introducing a wildlife journal for students in the module 'Irish Wildlife' to stimulate the students to record common species they encounter and identify as they progress through the programme. This could provide a CA element to the examination of this module.

#### **2.4.5 Conditions**

- Review and edit all Programme Schedules for accuracy.
- Revise module titles in the new Programme document to ensure consistency and accuracy.
- In the new document align module outcomes to Programmes and Programme outcomes to QQI Benchmark Statements 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 in a supplement to the SER.
- Provide an analysis of completion rates, number entered in 1<sup>st</sup> year verses number graduated with award, for each individual programme subject to this review, .
- From the analysis of retention and completion, in a supplement to the SER, indicate the strategies that will be adopted by the School to address issues raised.

### 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 2.4.4

**Condition(s):**

See Section 2.4.5

#### 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):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

#### 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 2.4.4

**Condition(s):**

See Section 2.4.5



### 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 2.4.4

**Condition(s):**

See Section 2.4.5

### 3.5 Programme Effectiveness and Efficiency

<i>Consideration for the panel:</i>	<p>Is there an analysis of the effectiveness and efficiency of each of the programmes approved under the following headings:</p> <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>	<p>Yes.</p> <p>Note that there is a recommendations on the inclusion of more detail in the SER.</p>

**Recommendation(s):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

### 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):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

### 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 are recommendations on how the SER should supplemented in respect of KPIs.

**Recommendation(s):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

### 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):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

### 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
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	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 2.4.4

**Condition(s):**

See Section 2.4.5

### 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):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

### 3.11 Stakeholder Engagement

The Panel met with students/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 the institute has appropriate engagement and consultation with Stakeholders.

**Recommendation(s):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

## 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.
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Overall Finding:

Yes.

**Recommendation(s):**

See Section 2.4.4

**Condition(s):**

See Section 2.4.5

## 5 Revalidation of BPS 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. All programmes listed in this document are recommended for revalidation for the five year period to the end of Academic year 2018/19.

The Programme Team, in its supplement to the SER and its response to conditions set by the EPRG should make it clear whether they have decided to change the title of any of the awards, as discussed at the meetings (i.e. Wildlife Biology and Ecology and a single set of awards (Higher Certificate, Ordinary Degree and Honours BSC) in Pharmaceutical Analysis (with options in Forensics, Cosmetics Science and Environmental Science), or whether they intend to retain the original separate programme and award titles.

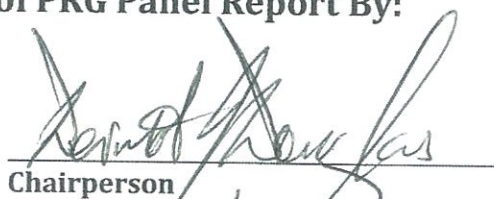
The Panel did not make revalidation conditional on such changes, but would require assurance that the issues involved had been actively considered by the programme team in coming to the decision they made.

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.

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.

## 6 Approval of PRG Panel Report By:

Signed:

  
Chairperson

Date:

14/05/2014