



Institiúid Teicneolaíochta Trá Lí

Institute of Technology Tralee

NEW COURSE EVALUATION External Panel of Assessors* ASSESSORS' REPORT

Proposed Award Title(s)	Bachelor of Science (Honours) in Agricultural Science (Add-on) Bachelor of Science (Honours) in Agricultural Science (Ab-initio) Bachelor of Science in Agricultural Science (Ab-initio) Higher Certificate in Science in Agricultural Science (embedded)							
Relevant School	Business, Computing & Humanities		Science, Technology, Engineering & Mathematics			✓	Health & Social Sciences	
Duration	1 Year		2 Years	✓	3 Years	✓	4 Years	✓
Date of Review	11 th May, 2015							
Panel of Assessors*	<p>Chairperson: Dr Diarmuid O Callaghan, Institute of Technology Blanchardstown</p> <p>Secretary: Dr Noel Mulligan, Institute of Technology Tralee</p> <p>Members: Dr Siobhan Walsh, Waterford Institute of Technology Mr John Murnane, University of Limerick Mr Dermot Forristal, Teagasc Mr Barry O Driscoll, JMC Parts</p>							

**Programme
Development
Team:**

Head of School: Dr Joseph Walsh

Head of Department: Dr Brendan O Donnell

Programme Leader: Dr Brendan O Donnell

Name of Member (Organisation):

Mr Pat Dromey

Mr Jim Kelly

Mr Eoin McCarthy

Mr Fergal O Sullivan

Dr Patrick Carney

Mr Michael Davern

Dr Daniel Riordan

Mr Cyril Gavaghan

Mr John P O Connor

Dr Eilish Broderick

Ms Sandra Hanley

Mr Conor Galvin

Ms Deirdre Enright

**Panel of
Assessors
Meetings**

**Meeting with President/Vice President Academic Affairs & Registrar
/Head of School/ Head of Department /Programme Leader(s)**

Proposal Documentation Provided

The Panel of Assessors was provided with two proposal documents as follows:

- Bachelor of Science (Ordinary) in Agricultural Science
- Bachelor of Science (Honours) in Agricultural Science

Discussion

The VPAA&R advised that the President was unavailable to meet with the Panel at this opening session but would meet the Panel later in the day.

Two separate meetings were held as follows:

- Meeting with Vice President Academic Affairs and Registrar and Head of School of Science, Technology, Engineering and Mathematics
- Meeting with Vice President Academic Affairs and Registrar, Head of School of Science, Technology, Engineering and Mathematics, Head of Department of Science, Technology, Engineering and Mathematics and Programme Leader

The discussion at these two sessions are summarised together below.

Rationale/Market Demand and Need for Programme:

The VPAA&R and HoS provided the Panel with an outline of how the Institute and School of STEM have been involved in the Agriculture Sector and particularly in Agricultural Engineering for over 40 years. More recently STEM has become involved in the field of Agricultural Science. Significant expertise had been developed in the Institute through involvement with Agricultural Engineering and Agricultural Science stakeholders nationally and internationally in areas of education, research and practice.

The School of STEM worked closely with Teagasc and University College Dublin in its development of the BSc in Agricultural Science programme and indeed in areas of research. The Institute is collaborating further with Teagasc in the development of this Level 8 award.

The School of STEM has also been working with key industry sector players, including primary producers and agribusiness enterprises in developing education, training and research services.

The experience over the past 3 years of delivery of the BSc in Agricultural Science has proven to be very successful and there is now demand from current students, current second level students, and industry partners for the Institute to develop the 4 year BSc (Honours) in Agricultural Science pathway proposed here.

There are significant developments in Irish, European and Global agriculture that create a demand for increased numbers of graduates at ordinary and

honours degree level that the Institute is responding to in the development of the BSc (Honours) programme and adapting the BSc and HC in Science pathway in the process.

The potential impact of the new BSc (Honours) programme on existing intake was noted as an area of concern but it is believed that the increased demand for Agricultural Science and related agriculture programmes will limit any negative competitive impacts. The expectation is that graduates from the Level 7 programme will opt to transfer into the proposed add-on BSc (Honours) award instead of taking the option of transferring to the UCD Agricultural Science pathways. Direct entry to the Level 7 pathway is still attractive to those that would wish to take a three year ordinary degree with the option of transferring to the Level 8 programme rather than entering on the Level 8 programme. Indeed the entry requirements for the Level 7 pathway provides entry to candidates that the ab-initio route may not.

There is evidence of the success of the Level 7 programme in terms of excellent retention rates and student performance, satisfaction from industry stakeholders in the quality of the students and the employment opportunities already being offered to the first cohort of graduates due to emerge later this year.

Strategic Fit:

The Institute is the National Centre for Agricultural Engineering and is located in an area of highly significant agriculture and agribusiness activity. The proposed developments align closely to the Institute Strategic Plan and all its five strategic priorities. It provides an opportunity to develop and expand activities in the area of agriculture that is an area of expansion which the Institute is well positioned to exploit.

The Institute's approach is to provide a niche programme in a national context where other HEI are also providing Agricultural Science offerings. The Institute is the only provider of such a programme in the South West Region and is attracting entrants from across the country. It was none the less noted that ITT graduates will be competing with those from other similar HEI programme. In this context the recognition by Department of Agriculture, Food and the Marine, Teagasc and similar agencies of the ITT qualification for employment is critical.

The Institute's approach to competing for students is to retain the Level 7 offering in addition to the new Level 8 award on the CAO.

The programme proposal document provides further elaboration on the Strategic Fit of the programme.

Resources:

The Panel noted that the increased activity linked to the proposed programme development creates pressure on existing resources. The Head of School and Head of Department outlined what was currently happening in terms of meeting the increased demand for resources. Access to the necessary physical resources will be provided from within the resources of the School and through collaboration with Teagasc and indeed through links with primary producers and agribusiness enterprises in the area.

It is noted that the new programme will lead to a demand for additional staff resources in terms of hours required to deliver the programme and also in additional expertise that will be needed to complement that already available. This issue was explored further with the Programme Development Team. The Institute has advertised a full time contract post to meet some of the demand and may also be in a position to engage the services of others to provide the necessary expertise on a part time basis.

Meeting with Programme Development Team

The Panel met with the Programme Development Team and held a wide ranging discussion of issues around all aspects of the Level 7 and Level 8 programmes and the Level 6 embedded standard.

Discussion

Main Award:

The four year pathway leading to the Ab-initio BSc (Honours) in Agricultural Science encompasses that of the one Year Add-on BSc (Honours), the Ab-initio BSc and the embedded Higher Certificate in Science. This pathway was presented as a coherent package.

Award/Programme Type, Title and Level:

The programmes, BSc (Honours), BSc and HC in Science, were considered in the context of Major Award Types, Title and Levels.

There was some discussion around the Agricultural Science discipline and the content that supported this discipline designation.

Programme Coherence with Aims and Objectives:

The coherence of the Aims and Objectives were considered particularly in the context of Agricultural Science as the designated discipline.

Employment Opportunities:

The experience to date of student on work placement was considered as was the feedback from potential employers in term of graduates at Level 6, 7 & 8.

Entry Requirements/Access:

The entry requirement and access routes to the programme pathways were considered

Progression/Transfer Opportunities:

Progression and transfer pathways internally as well as to other HEI programmes were considered.

Programme Structure and Content:

The Programme Structure and Content of the proposed year 4 and the revisions proposed in years 1, 2 and 3 were fully considered in establishing the coherence of the pathway and the various awards arising from this.

Proposed Programme Course Schedule:

The proposed revisions to the Course Schedule for the BSc and HC in Science programmes were considered as part of the review of the new BSc (Honours) ab-initio, BSc (Honours) Add-on

Programme Outcome Mapping to Modules Learning Outcomes:

The document provided included a mapping of the Programme Outcomes to the QQI/HETAC Science Award Standards and these in turn were mapped to the Learning Outcomes of the constituent Modules across the three years of the BSc and the fourth year of the BSc (Honours)

Development of Programme Themes:

There was discussion around the focus of the content on particular Agricultural Science themes and the emphasis and depth of treatment of the content of programme themes.

Review of Modules (particularly New Modules):

Each of the modules on the four years of the Agricultural Science pathway was considered in detail and comments and suggestions noted for possible improvements.

The following was noted by the Panel and is brought to the attention of the Programme Development team for action:

- Module Code, Level and Titles to be cross-checked between Proposed Course Schedule and Module descriptors in respect of a number of modules;
- Reading list in respect of 'Essential Scientific Maths' to be updated;
- Number of Learning Outcomes in respect of 'Crop Science' to be reconsidered;
- Rebalance the content to ensure the appropriate emphasis on agricultural science in respect of the module 'Animal Physiology' and perhaps other modules;
- Ensure that the balance of science and production is maintained in delivering modules that have a large content;
- Avoid unnecessary overlap of content between modules but retain a certain amount as appropriate;
- The content of 'Dairy Production' may need to be rebalanced;
- Consider where to include appropriate content in respect of Pig and Poultry Production, Equine, Forestry and Energy Production content in the context of the Programme and the need to have in depth treatment of most appropriate content;
- Reconsider the return to the 'Advanced Beef Production' title for 'Sustainable Beef Production';

- Note the need to cover Soil Compaction and Greenhouse Gases topics to appropriate depth;
- Review the balance of the 'Bovine Reproduction & Breeding' module in light of discussions;
- Review the balance of the 'Ruminant Nutrition (Feed Formulation)' in the context of what students will need to have by way for core competence when it comes to practice;
- Note need to confirm that the Credits/Total Hours ratios are appropriate in respect of 'Agricultural Science Work Placement Portfolio' and Work Placement where the 5 Credits equates to 100 hours and pro-rata;
- Note the variability of Prerequisite Knowledge section in the Module descriptors where no information is provided in most cases and where there may be a need to update in some instances.

Learning Experience:

In reviewing the programme as a whole and the delivery and assessment of the individual modules, the learning experience of the students was examined in terms of learner development.

Learner Workload Including Assessment:

The documentation provided detailed analysis of the workload across each of the semesters and this was further explored with the Programme Development Team in respect of particular modules.

Staff Expertise:

The documentation provided evidence of the allocation of staff expertise in the delivery of modules. This was explored earlier with the VPAA&R and Head of School in terms of identifying how the Institute proposed to employ those required to ensure that the programme could be delivered by those with the appropriate expertise.

Embedded Standards/Exit Awards:

The Programme proposal documentation covered the following:

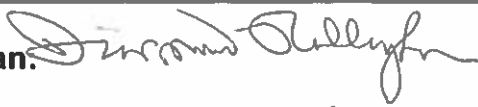

- Higher Certificate in Science in Agricultural Science as an Embedded standard in the BSc in Agricultural Science and in the Ab-initio BSc (Honours) in Agricultural Science;
- BSc in Agricultural Science Ab-initio and as an embedded standard in the Ab-initio BSc (Honours) in Agricultural Science;
- BSc (Honours) in Agricultural Science Ab-initio;
- BSc (Honours) in Agricultural Science 1 year Add-on.

Section 1	FINDINGS OF ASSESSORS
Section 1.1	<p><u>General Observation, Programme Aims & Objectives</u></p> <p>The Panel of Assessors noted that the proposal submitted was coherent and comprehensive. It further noted that the Programme Aims and Objectives were appropriate for both the new Level 8 awards and the updates to the existing approved Level 6 and 7 awards.</p>
Section 1.2	<p><u>Award Type, Level, Title and Programme Aims & Objectives</u></p> <p>Award Type</p> <p>All programmes proposed meet the requirements of Named Major Award Types of Higher Certificate, Ordinary Bachelor Degree and Honours Bachelor Degree.</p> <p>Award Level</p> <p>The programme proposed are coherent with the NFQ Level 6, 7 & 8 Level Indicators as appropriate.</p> <p>Award Title</p> <p>The Award Titles of Higher Certificate in Science in Agricultural Science, BSc in Agricultural Science and BSc (Honours) in Agricultural Science are appropriate.</p> <p>Programme Aims and Objectives</p> <p>The Programme Aims and Objectives for the BSc (Honours) and BSc programmes as propose are appropriate. Those for the Higher Certificate in Science were taken to be as previously approved and were not being changed.</p>
Section 1.3	<p><u>Learning Experience & Assessment</u></p> <p>Programme Outcomes & Module Learning Outcomes</p> <p>The mapping of the Programme Outcomes and the Module Learning Outcomes of the BSc and BSc (Honours) to the QQI/HETAC Award Standards were found to be appropriate. Those for the Higher Certificate in Science were not considered and were taken to be as previously approved and were not being changed.</p> <p>Programme Structure & Syllabi</p> <p>The Structure and Syllabi of the programmes were generally appropriate.</p> <p>Teaching/Learning Strategies & Methods</p>

	<p>The Teaching/Learning Strategies and Methods were generally appropriate.</p> <p>Assessment Strategy & Methodologies</p> <p>The Assessment Strategies and Methodologies were generally appropriate and in accordance with the Institute's Assessment and Standards.</p> <p>Total Learning Workload</p> <p>The total learner workload was noted to be high but is in keeping with the norms being applied for similar programmes in the School of STEM</p>
Section 1.4	<p><u>Physical Resources</u></p> <p>The physical resources available in the Institute or otherwise accessible through collaborations with Teagasc, local agricultural primary producers processors and agribusiness enterprises are appropriate to the needs of the programmes.</p>
Section 1.5	<p><u>Staff Resources (Curriculum Vitae & Expertise of Staff)</u></p> <p>Much of the expertise required to deliver the programmes is available in the Institute. However it is noted that the additional demand on resources created by the new year 4 programme creates a need for expertise that is currently not available to the Institute. The Panel noted that the institute is currently recruiting some additional expertise but the Panel felt that some further expertise will be required to ensure the necessary depth of treatment of programme content and to provide greater credibility to the programmes.</p>
Section 1.6	<p><u>Proposed Course Schedules</u></p> <p>The Propose Course Schedules were generally fit for purpose. It was noted that there were some errors in the titles and codes for certain modules listed. It is further noted that any special regulations relating to such matters as module practical minimum attendance requirements may need to be listed in the Course Schedules in accordance with Institute practice.</p>
Section 1.7	<p><u>Compatibility of Programme Structure and Content with NQAI' Policy on Access, Transfer & Progression</u></p> <p>The new BSc (Honours) and the revised BSc and HC in Science programmes are compatible with the NQAI Policy on Access, Transfer and Progression</p>
Section 1.8	<p><u>Compatibility of Programme with Relevant QQI Award Standards</u></p> <p>The programmes being validated are in accordance with the QQI/HETAC Award Standards for Science at the appropriate levels</p>

Section 1.9	<p data-bbox="414 123 986 174"><u>Embedded Standard(s)/Exit Award(s)</u></p> <p data-bbox="414 201 1508 313">It is noted that the Higher Certificate in Science is an embedded standard on the BSc in Agricultural Science and the BSc (Honours) in Agricultural Science.</p> <p data-bbox="414 347 1412 436">It is further noted that the BSc in Agricultural Science is an embedded standard in the BSc (Honours) in Agricultural Science</p>
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Section 2	CONDITIONS & RECOMMENDATIONS
Section 2.1:	<p>For the attention of the Academic Council</p> <p>The Assessors recommend that the course: -</p> <p>Be approved without modification</p> <p>Be approved subject to the conditions outlined below</p> <p>Not approve and requires resubmission with significant modifications outlined below</p> <p>Not approved for the reasons outlined below</p> <div style="float: right;"> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> </div>
Section 2.2	<p><u>Conditions</u></p> <p>No conditions are attaching to the recommendation for validation of the programme being reviewed</p>
Section 2.3	<p><u>Recommendations</u></p> <ol style="list-style-type: none"> 1. The Institute should ensure that the necessary expertise required to deliver the specialist content of the programmes and particularly in the modules on year 4 of the BSc (Honours) is sufficient. This will require the recruitment of the relevant staff expertise at PhD or equivalent in one or more specialist areas such as ruminant nutrition or reproduction/breeding/genetics. 2. The Agricultural Science discipline designation of the Awards and the QQi/HETAC Award Standards require that the science content of the programme and its constituent modules is appropriately represented as core knowledge, skill, know-how and competence. This must be ensured in the way the modules are drafted, delivered and assessed to ensure that the students achieve the Learning Outcomes appropriately. This may require some edits to the content of modules or the rebalancing of some module content to ensure the prominence of science. 3. Every effort should be made to find ways of increasing the depth of treatment of programme content and the depth of learning of students can achieve in order to enhance their employability is a competitive graduate employment market. 4. Amendments and edits to the submission documentation and particular to the content and balance of Modules noted in the meeting between the Panel of Assessors and the Programme Development Team should be addressed as appropriate.

Section 2.4	Reasons for Rejection (if appropriate) N/A
Signed Chairman: 	Date: 14/5/15
Signed Secretary: 	Date: 18/5/15

18 MAY 2015
PRESIDENT