



Institute of Technology Sligo
INSTITIÚID TEICNEOLAÍOCHTA SLIGEACH

PROGRAMME VALIDATION REPORT

Date of Evaluation: April 11th 2019

Programmes Evaluated:

- 1. Level 6 Ecology and Environmental Science (120 Credits)**
- 2. Level 7 Ecology and Environmental Science (180 credits)**
- 3. Level 8 Ecology and Environmental Science (240 credits)**
- 4. Level 6. Agri-food Science (120 credits)**

Unique Programme

Reference Number PRN:

Panel of Assessors:

Mr Tom Cullivan, Retired HETAC Secretary.

Dr Suzanne Linnane, School of Health and Science, Dundalk Institute of Technology.

Dr. Colin Brown, Former Director of Ryan Institute, NUI Galway.

Dr. Michéal O Cinneide, Former Director of EPA.

Mr Colin McLean, VP of Academic Affairs, Institute of Technology Sligo.

Declaration Regarding Any Conflicts of Interest

The members of the Panel signed a form confirming that they did not have any conflict of interest.

Meeting with Institute, Faculty, Department and Programme Management

Attendees:

- Dr Brendan McCormack (President)
- Professor Frances Lucy (Head of Department of Environmental Science)
- Lil Rudden
- Aideen Considine
- Guy Marsden

The Chair welcomed the President and Faculty of Science Staff. The Head of Department gave an overview presentation. The Department have been delivering a Higher Diploma since 1970, and a Degree in Environmental Science since 1982.

The proposed programmes are a change in what they are doing. They have structured the L7 and L8 together and are introducing a Level 6.

Differences from existing programmes – new programmes have:-

First year: Introduction to enquiry based learning (ebl).

Second Year: Climate science. Integrated teaching and learning on water and wastewater. Two Enquiry Based Learning modules covering Environment and Ecology topics.

Third Year: Ethics, Data-handling, work-placement preparation, one online module.

Fourth Year: Advanced Instrumental Environmental analysis, Conservation and Advanced Eco-monitoring, two online modules.

Overall greater emphasis on Ecology throughout programme meriting inclusion in the title.

The President welcomed the panel. IT Sligo currently have over 7000 students, up from 5,800 at the start of the strategic plan. There is a target of 10,000 which is a challenge as the population in our region is not as much as east coast. There are also currently 55% of region students leave to study out with the region.

The Institute has a TU ambition with partners LYIT and GMIT. This will involve an increase in postgraduate students from 85 to 185, and this is being enabled by the introduction of 10 new postgraduate programmes

The President left the meeting.

The panel discussed staff resources for the programmes. They commented on that the staff list for both programmes was essentially the same. The programme team responded that the two new staff had been recruited for the Agri-food programme.

The panel felt that IT Sligo were building on strengths and that the reputation of graduates from the Department was high.

The panel questioned if the title of the Agri-food programme reflected the overall aims and suggested it could possibly be Sustainable Food Production. The programme team felt that the programme covered both primary and secondary food production and that there was merit in this proposal.

The programme team outlined that the current Level 8 Agri-food had a work placement with students located around Ireland. The Agri-food is only in its 3rd year and students on placement were putting the programme on the map. Recruitment had been disappointing and they were conscious of need to do something with programme to make it more viable.

The programme team were exploring how they can fit with developments in Teagasc. Currently the Teagasc Green Certificate is not delivered in Institutes of Technology. One option could be for IT Sligo to get partial status of recognition of 20 out of 70 credits for the Green Certificate.

The panel discussed the employer's survey and asked if 21 companies was enough. The programme team outlined they had sent out the survey to a large number of companies, but had only received 21 responses.

The panel asked if field studies one of our USP for the programme. The programme team agreed it was and that field work will be in Enquiry Based Learning part of the programme.

The panel felt that the large number of graduates from environmental programme over the years should be able to promote the programme and that programme team should play to its strengths in field work. The panel noted the value ecology was given in the survey and that the typical role for the graduates could be as Catchment Officer whereby they were the boots on ground to undertake investigative assignments

The panel identified the need for resources to be committed to fieldwork. The programme team agreed but also outlined the use of nearby sites as well. They outlined how Semester 3 and 4 had changed where the Ash Lane River is used for samples etc. The students learn chain of custody etc., using pilot plant water conversion to drinking water then analysis – Source to tap. This encourages Teamwork and gets students actually doing it.

The panel queried how much has the programme changed and did all the changes relate to ecology. The programme team described how both biotic and abiotic are covered and that the students need to know both. They cannot do climate science without ecology.

The panel questioned the programme name of Ecology and Environmental Science. Were they both majors or were they major/minor?

The panel noted the strong support in the survey for GIS. The programme team explained that GIS was now delivered using an online system from desktop and that students could do online surveys done from smart phones and that they could also be used for data capture.

Meeting with Programme Team

Attendees:

- Frances Lucy
- Annmarie Duddy
- Noel Connaughton
- Dolores Byrne
- Bill Crowe
- Eoin Gillespie
- Anne O Donohue
- Suresh Pillai
- Cait Coyle
- Lil Rudden
- Lisa Cronin
- Aideen Considine
- Ana Vale
- Nicolas Touzet
- Maria Dermiki
- Carmel Moran
- Cian Taylor
- Tony Partridge
- Guy Marsden
- Uma Tiwari
- Paul Hamilton
- David Doyle
- Edel Costello
- Mary Hannon
- Ossian Geraghty

The Panel introduced themselves and the Programme team introduced themselves and their specialisms.

The panel discussed modifying both programme titles and then wanted to look at content and the implications of the new programme titles. This changes would involve IT Sligo playing to its strength and to differentiate the programmes.

It was noted that 'And' in the programme title implied a 50/50 split and that with indicated a major and a minor. The panel asked if the Ecology and Environmental Science programme was 50/50.

In Agri-food to Support L6 the panel felt the title needed to be differentiated and play to the strength of the team. Sustainable food production was suggested as it ties in with what's happening nationally and internationally.

The programme team responded that the existing programmes were going through programmatic review at this time.

The panel welcomed the documentation provided and found it useful. They highlighted that it was a very broad programme and could there be a loss of cohesion. They also asked about interactions between lecturers doing individual modules and how integrated was the programme.

The programme team responded that enquiry based learning will help but that staff work closely. Some subject taught discrete as in they are in other programmes but most others are integrated.

The panel asked How often dis course board meet. The programme team informed them that it was twice per term and the panel queried if that was enough. The programme team responded that there are a number of informal interactions, for example a lot is done over tea. Staff are talking continuously and they gave maths as an example. The staff networking does not appear in documentation. It's done in existing programme where groups of staff constantly are in dialogue e.g. pilot plant, and especially in complementally related module.

The panel asked if a student handbook available was available. They were informed that it was and that there was a website available for current courses. There was also a student mentoring programme available.

The panel outlined that enquiry based learning is first outlined at stage 2 semester 3, and asked if this is the first time the students see problem based module. The programme team explained that it starts in 1st year with the communications module and that this lays platforms for 2nd year and through other years.

The Panel queried if students embrace enquiry based learning. The programme team outlined how it had been introduced into the department 10 years ago and was being embraced by the students and that it had become part of the culture. Lots of softer skills are developed through this. They gave the example of the pilot plant module being enquiry based learning focused. Students were surveyed and were happy as they see how all process work. This encourages staff to interact so they can develop. New staff need training in Enquiry Based Learning. Its main advantage is that enquiry based learning gives students a roadmap so they know where they are going.

The panel asked for an outline of fieldwork in the programme with regards to its integration and identification. The panel explained that in 1st year it was introduced as "show and tell" and in 2nd year the students went out into field to study ecology. In 3rd year ecological monitoring was covered. In earth science the fieldwork included visiting a mining site and geological heritage sites. This gives a connection between desk studies through to fieldwork.

The panel noted that the documentation undersells what is done in fieldwork and it needs a paragraph in documentation. The programme team explained that it was in programme descriptions. Every module would have fieldwork elements. This needs to be stated more explicitly as it's the elements students most loved.

The panel then reviewed the individual modules.

The panel asked if the environmental ethics module will work. The programme team explained that it was designed to educate the student to make right decision at right time. They need 2 years grounding so they can understand the concepts and ethics also spanned a number of modules.

The panel asked about the methodology around the case study assignment etc., and how was it designed?

The programme team described how they take them through a scenario which could be real of designed. They then develop material and not lecture. Decision-making need to be quicker, more immediate, and to include use current issues.

Earth Science module to be more focused in Ireland with ocean and atmosphere

Source to Tap has no mention of source protection, include integrated catchment management. Integrate with Environmental Regulation module in same semester to address governance.

Communication and integration of citizen, citizen science, and community activity to be included where appropriate.

Integrate field studies to make clear where it is in each module.

Year 4 Conservation Issues. Are conservation issues covered elsewhere? Reference eco system services. Is conservation an old-fashioned paradigm – More advocacy required?

GIS underrepresented in course – Need to be presented better. Integration with other modules not highlighted. Highlight Satellite imaging and drone technology. Introduce open source software. LO3 in 1st module – Same as LO 5 in 2nd module

Sustainable futures the methodology and mode of delivery needs to be outlined more. What will student do? Need further description and examples.

Project 2 – Same as above

Natural Resource Management – surface water, wet lands and coastal ecology needs to be included in indicative syllabus

Role of STG's – Mention in indicative content of all modules

Decision of the Validation Panel

Level 6 Ecology and Environmental Science (120 Credits)

Level 7 Ecology and Environmental Science (180 credits)

Level 8 Ecology and Environmental Science (240 credits)

Level 6. Agri-food Science (120 credits)

Commended

Work to date on changes to proposed programmes

Strong level of collaboration between staff, including on enquiry based learning.

Conditions

Agri-food name to be changed to, for example, Sustainable Food Production

In view of perceived balance, the programme should be called Environmental Science with Ecology

Recommendations

To continue to engage with Teagasc – e.g. partial green certificate credit.

Review the number of learning outcomes in line with credits

Review the use of verbs in LO's, typos, book lists, online resources

Show Integration of fieldwork in all modules – visual/ tabular representation

Show organisation chart for programme

The following was recommended for individual modules:-

- Earth Science module to be more focused in Ireland with ocean and atmosphere
- Source to Tap has no mention of source protection, include integrated catchment management. Integrate with Environmental Regulation module in same semester to address governance.
- Communication and integration of citizen, citizen science, and community activity to be included where appropriate.
- Integrate field studies to make clear where it is in each module.
- Year 4 Conservation Issues. Are conservation issues covered elsewhere? Reference eco system services. Is conservation an old-fashioned paradigm – More advocacy required?

- GIS underrepresented in course – Need to be presented better. Integration with other modules not highlighted. Highlight Satellite imaging and drone technology. Introduce open source software. LO3 in 1st module – Same as LO 5 in 2nd module
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- Project 2 – Same as above
- Natural Resource Management – surface water, wet lands and coastal ecology needs to be included in indicative syllabus
- Role of STG's – Mention in indicative content of all modules

Signed on behalf of programme validation Panel

Mr Tom Cullivan
Chairperson

Date: _____

Colin McLean
Recording Secretary

Date: _____



Science Faculty Response to Recommendations (AUDIT OF PROGRAMMES) Date: April 11 2019

Programme Titles:

5. Level 6 Ecology and Environmental Science (120 Credits)
6. Level 7 Ecology and Environmental Science (180 credits)
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Attendance:

Panel

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- Dr Suzanne Linnane, School of Health and Science, Dundalk Institute of Technology.
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- Frances Lucy
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Conditions	Response to conditions
Agri-food name to be changed to, for example, Sustainable Food Production	Level 6 Agri-Food Programme will be changed to Sustainable Food Production
In view of perceived balance, the programme should be called Environmental Science with Ecology	Levels 6, 7 and 8 of Environmental Programme will be entitled Environmental Science with Ecology

Recommendations	Response to recommendations
To continue to engage with Teagasc – e.g. partial green certificate credit.	We will be engaging with Teagasc to develop this programme.
Review the number of learning outcomes in line with credits	Review carried out on number of Learning outcomes.
Review the use of verbs in LO's, typos, book lists, online resources	Review carried out for use of verbs, book lists, typos and online resources.
Show Integration of fieldwork in all modules – visual/ tabular representation	Fieldwork will be shown in module descriptors.
Show organisation chart for programme	This will be designed and put on webpage and in marketing materials.
Earth Science module to be more focused in Ireland with ocean and atmosphere	This module has been modified to be more focused in Ireland with ocean and atmosphere,
Source to Tap has no mention of source protection, include integrated catchment management. Integrate with Environmental Regulation module in same semester to address governance.	Source protection and catchment management will be included in this module and integrated with Environmental Regulation.
Communication and integration of citizen, citizen science, and community activity to be included where appropriate.	These will be implicitly and explicitly integrated into ecology, source to tap , ethics and other modules where appropriate.

Integrate field studies to make clear where it is in each module.	As above comment on field studies.
Year 4 Conservation Issues. Are conservation issues covered elsewhere? Reference eco system services. Is conservation an old-fashioned paradigm – More advocacy required?	Conservation module has been modified. We are retaining the use of the term conservation It is still widely used in management of natural resources. Advocacy will be included where appropriate in the programme.
GIS underrepresented in course – Need to be presented better. Integration with other modules not highlighted. Highlight Satellite imaging and drone technology. Introduce open source software. LO3 in 1 st module – Same as LO 5 in 2 nd module	Adjustments made to modules. GIS will be integrated into modules from year 2. Satellite imagery and drone technology will be included and also other cutting edge imagery techniques used in CERIS projects, e.g. LIDAR and infra-red.
Sustainable futures the methodology and mode of delivery needs to be outlined more. What will student do? Need further description and examples.	Methodology for Sustainable Futures will be better presented and explained.
Project 2 – Same as above	Methodology for Project 2 will be better presented and explained
Natural Resource Management – surface water, wet lands and coastal ecology needs to be included in indicative syllabus	Natural Resource Management – surface water, wet lands and coastal ecology are included in this module.
Role of SDG's – Mention in indicative content of all modules	Sustainable Development Goals will be included in content of modules.

For Academic Council _____

____Frances Lucy