

**Institute of Technology Sligo**

**INSTITIÚID TEICNEOLAÍOCHTA SLIGEACH**

**PROGRAMME VALIDATION REPORT**

**DATE OF EVALUATION 7th June 2016**

**PROGRAMME EVALUATED**

SG\_EROAD\_M09 [Master of Engineering in Road and Transport Engineering](http://10.100.150.211/programme/view/SG_EROAD_M09/201600/999999/653)

SG\_EROAD\_O09 Postgraduate Diploma in Engineering in Road and Transport Engineering Master of Engineering in Road and Transport Engineering

SG\_EROAD\_O09

EROADO9

# **Panel of Assessors**

Mr Tom Cullivan, Retired HETAC Secretary,

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**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 School Management**

Attendees:

Registrar: Colin McLean
Head of School: Shane Fanning

Head of Department: Trevor McSharry

Programme Coordinator: Dr Brian McCann

The Head of Department made a short presentation to give the panel an overview of the Institute, the School of Engineering and the Programme. The Registrar told the panel of the success the Institute have had with the Post Graduate Certificate in Engineering in Road Maintenance Engineering and Network Management and this new programme is building on the demand from industry and the expertise the Institute have in online delivery. The President commented on the demand being driven by external groups and students’ interest in continuous professional development and this programme will be ahead of those needs.

The programme team aims to achieve Engineers Ireland accreditation for the Masters Programme and it has been designed with this in mind and has been aligned with Engineering Ireland learning outcomes. It is likely this will be achieved in 2017/18 when the first output from the programme has graduated. The first cohort of students is likely to come mainly from the Local Authorities however the programme will be promoted outside this area. This will generate students from both industry and recent graduates. It will also be attractive for employers to have employees availing of professional development while still remaining in work.

The panel asked about the resource implications of adding this programme to the existing suite of programmes. The Head of Department said the expert staff currently on the Certificate would be available for this programme and if need arose further staff would be employed for the Level 8 programme.

The panel queried the programme team about the entry requirements and the need for an accredited Level 8 programme for entrants. Staff responded in the main, applicants will have a BEng Hons in Civil Engineering Degree and they must have achieved a 2.2. Students who have qualified with the Post Graduate Certificate in Engineering in Road Maintenance Engineering and Network Management will be eligible to progress to the Masters programme. There will be a facility for RPL (Recognition of Prior Learning) through myexperience.ie where the learning outcomes are mapped with the student’s experience.

There has been extensive consultation both external stakeholders and graduates from the Post Graduate Certificate in Engineering in Road Maintenance Engineering and Network Management.

**Meeting with the programme development team**

Attendees:

Trevor McSharry
Brian McCann

Dr. Tomas O’Flaherty

Bill O’Kelly Lynch

John Casserly

Mel Casserly

Dr. Pat Naughton

Gary McGinty

The Panel chair welcomed the lecturing staff and introductions were made.

A panel member asked about the challenges of blended learning and the interaction with students. Staff responded that there is an induction day in September which gives students an overview of the programme, meeting with lecturers and an introduction to online learning resources. They are given an assessment schedule and timetable, which is all available on Moodle. The panel stressed the importance of an agreement between lecturers to ensure the assessment timetable is appropriately spaced. Students meet face-to-face on two occasions per semester in Stage 1 and 1 day per semester in Stage 2. Guest lecturers are invited during workshop days. Workshops are compulsory and students are marked on their attendance and contribution. Online lectures are live but also recorded and posted on Moodle. Attendance can be monitored on Moodle and the lecturers catch up with students online on a regular basis to ensure they are progressing with projects. Students use Moodle Forum to engage with each other and to form study groups. Examinations take place in three centres.

The panel asked the programme team by what process programmes are reviewed and how student feedback is incorporated. Staff outlined the process of student feedback for each module which is incorporated in the Quality Assurance process via the EAP7 form together with the feedback from external examiners. Student feedback is captured on Moodle on the Programme Forum page. Programme boards meet to discuss all feedback and it forms part of future Programmatic Reviews.

The panel was keen to explore how the programme incorporated the digital revolution in this field and what types of software was used in teaching the modules. The Department assesses the needs every few years to ensure they are up to date. OASYS, Plaxis and Limit State software is used for Structural Assessment, Geotechnical and for Bridge Structures modules. BIM (Building Information Modelling) is not introduced in the Civil Engineering modules, however, staff are aware of the development in this area especially in the UK and some lecturing staff have expert knowledge in this concept. The panel strongly recommended this would be introduced across all disciplines and embedded in to programmes. AutoCAD Civil 3D is proposed for use in the Road and Transport Scheme Design module and this software is compliant with BIM based design. GIS and Spatial scanning software is not proposed for using in the programme. There is work on-going in enabling students to access licenced software remotely by use of virtual PCs.

The panel asked the programme team about group assessment and how they ensure fair assessment. Group work happens during workshop days but also in some subjects where students in close geographical locations will form groups, for example, students will inspect a bridge and perform a risk assessment. Some lecturers use methods such as Sizing the Slice and peer review to assess group projects.

**Discussion on the modules**

**Road Pavement Design and Management**

A panel member asked the programme team about the level of surface dressing included in the programme as there is a lack of knowledge of this in local authorities and the quality of materials and the knowledge of it is key in this area. The programme team said this is covered in the module. IAT guidelines are covered and visiting lecturers are invited to speak on the subject.

###### Dissertation

The panel queried how students select their dissertation topics and what level of flexibility is possible. The programme team responded that topics are made available to students but there is the option for students to bring a project in from their working environment. They are given a guideline document and their proposals are reviewed to ensure they meet the standards of a Level 9 dissertation. A supervisor is allocated once the topics have been decided on by the students. A second reader is also allocated for all dissertations.

**Traffic Control and Safety**

This module gives students an understanding of quality control. Road marking is included but is not the core of this module. Students assess road safety and review road safety strategies.

**Drainage Systems**This module requires students to review a green field site and design sustainable surface water drainage systems (SUDS) water pipeline and review NRA design documents.

**Summary of Findings**

The panel recommends this programme for validation to the Academic Council. It commends the programme team on its engagement with the needs of industry and the world of work.

**Panel Conditions**

There are no conditions.

**Panel Recommendations**

1. That in review of the modules the learners would get an introduction to BIM (Building Information Modelling) and the implication of working in a BIM environment.
2. That new and emerging technologies such as Remote/Spatial Sensing, UAV/Drones and GIS be incorporated where appropriate in the programme.
3. That accreditation by professional bodies is obtained as soon as output from the programme is available.
4. That a graphic overview of the programme content, the module sequence and assessment schedule be incorporated in the submissions document.

Signed on behalf of programme validation Panel

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| Date: 7 June 2016 | Date: 7 June 2016 |