



Institiúid Teicneolaíochta Trá Lí

Institute of Technology Tralee

**External Desk Review
EVALUATION REPORT**

Award(s) Title(s)	Certificate in Building Information Management				
Relevant School	Business, Computing & Humanities		Science, Technology, Engineering & Mathematics	X	Health & Social Sciences
Date of Review					
External Reviewers	Dr. Ken Thomas, Head of School, Engineering, Waterford IT Mr. Gary Falconer, Principal CJ Falconer & Associates				

Proposers	<p>Head of School: Dr. Joseph Walsh</p> <p>Head of Department: Mr. Brendan O'Donnell</p> <p>Programme Leader: Mr. Timothy Segal, Lecturer Mr. Con O'Regan, Lecturer</p> <p>Other Programme Team member:</p>
	<p>Date proposal considered by the Planning Sub-Committee of the Institute's Academic Council: 23rd February 2015</p>

INSTITUTE OF
TECHNOLOGY TRALEE

- 4 JUN 2015

OFFICE OF THE PRESIDENT

Section 1	FINDINGS OF ASSESSORS
Panel of Assessors Evaluation	<p>Proposal Documentation Provided: <i>Programme Template and Modules (5 no.)</i></p> <p>Award/Programme Type, Title and Level: <i>Special Purpose Award</i> <i>Certificate in Building Information Management</i> <i>NFQ Level 6 – 30 ECTS</i></p> <p>Programme Coherence with Aims and Objectives: "This course is targeted at individuals who were educated or in employment within Construction in the past but who are now looking to catch up on the significant developments over the past decade as described above. Its aim is to provide these candidates with additional skills and knowledge in the areas of building modelling and information management, sustainable design and construction practice in order to accelerate their ability to compete within the new construction industry workforce." [Page 4]</p> <p>"The programme aim is to produce for the construction sector a graduate that will:</p> <ul style="list-style-type: none"> • have updated knowledge, skills and competence to contribute to modern building design and construction; • be able to operate within a design and/or construction team using BIM tools and techniques; • be able to produce and interrogate coordinated 3-D building design models with intelligent objects within a multidisciplinary team; • be in a position to respond to demands for buildings with increased levels of energy efficiency and improved levels of economic certainty." <p>[Page 16]</p> <p><i>The general Structure and Content of the proposed programme are aligned with the stated Aim. However the use of the word 'Management' instead of 'Modelling' in the title is perhaps questionable.</i></p> <p>Employment Opportunities: "Graduates who would already have been in a position to work as technicians within design and surveying practices as well as building contractors and suppliers will now be more competitive as assets to any company looking to widen their scope of services and improve their relevance in the future industrial landscape. Successful candidates would have improved teamwork skills as well as capability in 3-D modelling of architectural, structural and building services elements, building measurement with BIM, advanced architectural detailing, specification and energy modelling." [Page 8]</p> <p><i>Skills associated with Building Information Modeling (BIM) are among the specific areas of demand identified in the 2015-16 Springboard initiative. While the skepticism of some of the stakeholders involved in the consultation process [Pages 6-7] is noted, those who successfully complete the proposed Certificate in Building Information Management are certainly going to be more employable in an industry that is increasingly using BIM technologies. The limitations of the programme (1-year part-time; 30 ECTS; Level 6) means that that extent of the graduates' additional skills and knowledge gained will be limited. Every effort should therefore</i></p>

be made to ensure that the participants' time on campus and off-campus is maximized, particularly in improving their use of BIM technologies to enhance their ultimate employability.

Entry Requirements/Access:

"Level 6 qualification in Construction Studies or related discipline or a minimum of 2 years of experience in construction project-related work such as drawing production, measurement or similar activity (CAD experience would be beneficial but is not necessarily a prerequisite for this course)." [Page 9]

The minimum entry requirements are not as clear as they should be. While the cognate Level 6 entry is straightforward, the need for a Leaving Certificate or Level 5 equivalent in addition to the 2 years of experience in construction project-related work as a minimum entry point should be clarified/checked.

"Students who have successfully completed the IT Tralee Level 6 award in Renewable Energy and Energy Management or Energy Management and the Built Environment or equivalent will be eligible for entry with exemptions in completed modules." [Page 9]

Giving exemptions in the relevant modules to recently qualified Level 6 graduates would appear to be reasonable. However if the modules have changed since their Level 6 graduation, then they should potentially retake all or elements of these modules.

Progression/Transfer Opportunities:

"Students who successfully complete this programme will be eligible for relevant exemptions in current IT Tralee major award programmes in Energy Management in the Built Environment as well as Wood Technology and Sustainable Construction." [Page 9]

These progression routes within the existing IT Tralee portfolio appear to be appropriate. The Certificate in Building Information Management team could/should also consider developing a new specific follow-on BIM-related programme at NFQ Level 7.

Programme Structure and Content:

The structure of the programme consists of 5 modules, 4 of which equate to 5ECTS each and the other equates to 10 ECTS. 3 of these modules are existing and 2 are new.

Programme Course Schedule:

The titles of the modules are as follows:

*Sustainable Architecture 1 - Existing
Building Information Modelling (BIM) with Revit - New
Sustainable Architecture 2 - Existing
Energy Performance Modelling – Existing
Building Measurement with BIM - New*

Programme Outcome Mapping to Modules Learning Outcomes:

"On completion of the programme the learner will be able to:

1. Contribute within a team to the development of a full 3-D building architectural, structural and building services model
2. Interact with and interrogate a design model within a project team environment including design development, statutory compliance,

- construction programming, pricing and supply chain management activities
3. Identify energy and other performance criteria and perform simulations and compliance demonstrations for building energy performance requirements.
 4. Produce take-off calculations and pricing documentation from a working building information model
 5. Generate 2- and 3-D drawings and documentation in various formats for communication with building process stakeholders
 6. Display detailed knowledge of BIM-related roles, duties, techniques and capability"

[Page 16]

These Programme Outcomes appear to be appropriate. They have been mapped against the HETAC NFQ Level 6 Standards [Pages 17-20] and the Modules [Page 21].

Coherence of Programme Themes:

The programme is considered coherent given the context of this Special Purpose award of 30 ECTS at Level 6.

Learning Experience:

"The course is delivered over two evenings each week with monthly "Project days on Fridays during each semester. In Semester 1, these project days will be opportunities for additional group collaboration associated with the production of the group building model. In semester 2, these days will be more directed and will include a portion of the contact hour requirements of the modules." [Page 12]

The proposed delivery of the programme is balanced across the academic year with 15 ECTS in the first semester and 15 ECTS in the second semester.

Learner Workload Including Assessment:

The associated workload is approximately half of what would typically be expected of a full-time participant.

The main 10 ECTS module 'BIM with Revit' is 100% CA. 3 of the other 4 modules have 40% CA and 60% Final Exam. The fifth module has an assessment approach of 50% CA and 50% Final Exam.

Staff Expertise:

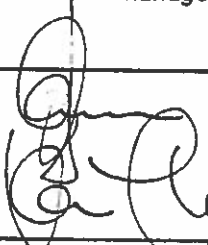
The CVs for 4 staff at IT Tralee were included in the template [Pages 24-35]; Mark Bourke; Con O'Regan; Tim Segal; and Jim Stone.

This is a strong and experienced team with relevant knowledge to deliver the proposed Certificate programme. While the CVs don't specifically state the BIM-related skills of the team (e.g. Revit), it is assumed that the CPD statement on Page 5 in the template applies to these 4 staff.

As identified previously, 3 of the 5 modules are already being delivered on other programmes in IT Tralee. There are 2 new modules that are the core to the proposed programme. 'BIM with Revit' is apparently to be delivered by Tim and Con while Jim is nominated as responsible for 'Building Measurement with BIM'.

Embedded Standards/Awards

This issue is not relevant to the proposed Certificate in Building Information Management.

Section 2	CONDITIONS & RECOMMENDATIONS				
Section 2.1:	<p>For the attention of the Academic Council</p> <p>The Assessors recommend that the proposed amendments to the programme: -</p> <p>Be approved without modification</p> <p>Be approved subject to the conditions outlined below</p> <p>Requires resubmission with significant modifications</p> <p>Be rejected</p> <div style="text-align: right;"> <table border="1" style="margin-left: auto;"> <tr><td></td></tr> <tr><td style="text-align: center;">x</td></tr> <tr><td></td></tr> <tr><td></td></tr> </table> </div>		x		
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Section 2.2	<p><u>Conditions</u></p> <p><i>Clarify the Entry Requirements for those applicants who do not have an NFQ Level 6 qualification [Page 9].</i></p>				
Section 2.3	<p><u>Recommendations</u></p> <p><i>The Certificate in Building Information Management team and the wider School of STEM in IT Tralee should continue to develop their BIM knowledge through staff CPD and make BIM core to the relevant programmes at all levels.</i></p> <p><i>Given the overall limitations of the programme (1-year part-time; 30 ECTS; Level 6), every effort should be made to ensure that the participants' time on campus and off-campus is maximized, particularly in improving their use of BIM technologies to enhance their ultimate employability. The programme team should take this comment into consideration in the delivery and assessment of the 5 modules.</i></p> <p><i>Consideration should be given to changing of the programme from Certificate in Building Information Management to Certificate in Building Information Modelling.</i></p>				
Assessor 1 Signed:	<div style="text-align: center;">  </div> <div style="text-align: right;"> <p>Date: 4-6-15</p> </div>				
Assessor 2 Signed:					