



Date of Meeting: 12 May 2011
Named Award: Master of Engineering
Programme Title: M.Eng. in Civil Engineering (Environment & Energy)
Award Type: Masters Degree
Award Class: Major
NFQ Level: 9
Intakes Commencing: September 2011
ECTS/ACCS Credits: 90
Embedded Award: Postgraduate Diploma, 60 credits.

PANEL MEMBERS

Name
Mr Austin Hanley, Head of School of Engineering, Athlone Institute of Technology - CHAIR
Professor Padraic O' Donoghue, Professor of Civil Engineering, NUI Galway
Mr P.J. Rudden, Group Director-Energy and Environment, RPS Group
Mr Joe Kindregan, Head of Dept of Civil Engineering, DIT
Mr Ed Riordan, Deputy Registrar and Head of Academic Quality, CIT

In Attendance: Ms Denise O'Keeffe, Mr Ian O'Sullivan CIT

PROPOSING TEAM MEMBERS

Name
Mr Michael Loftus, Head of Faculty – Engineering & Science
Dr Joe Harrington, Head of School – Building, Civil and Environmental Engineering
Mr Des Walsh, Head of Department – Civil, Structural & Environmental Engineering
Mr Leonard O' Driscoll, Department of Civil, Structural & Environmental Engineering
Dr Niamh Power, Department of Civil, Structural & Environmental Engineering
Mr David Cadogan, Department of Civil, Structural & Environmental Engineering
Ms Mary Moloney, Department of Civil, Structural & Environmental Engineering
Mr Kevin Davis, Department of Mechanical Engineering
Ms Denise Barnett, Department of Civil, Structural & Environmental Engineering

BACKGROUND TO THE PROPOSED PROGRAMME

This 12 month taught masters programme is proposed by the Department of Civil, Structural & Environmental Engineering. The programme will complement the Department's existing taught masters programme in Structural Engineering and is part of a proposed suite of taught masters across the Faculty of Engineering and Science. Demand for the programme will be fed initially by the graduates from the Department's successful B.Eng. (Honours) degree in Structural Engineering, and it is envisaged that over time that the programme will evolve in a manner that will attract graduates from other cognate areas.

FINDINGS OF THE PANEL

1. General Findings

The Panel commends the proposing team on the programme and for the lively discussion during the validation meeting. Some updates to the documentation are recommended below, and the panel has no hesitation in recommending validation of what is deemed to be an excellent proposal.

2. Validation Criteria

The Panel has considered the documentation provided and has discussed the programme with the proposers. The panel has concluded that the programme meets the required standards in the Civil & Environmental Engineering field of study at Level 9 of the National Qualification Framework.

*NOTE: In this report, the term “Requirement” is used to indicate an action or amendment which in the view of the Panel **must be undertaken** prior to commencement of the Programme. The term “Recommendation” indicates an item to which the Institute/Academic Council/Course Board should give serious consideration for implementation at an early stage and which should be the subject of on-going monitoring.*

With regard to the CIT Validation Criteria:

2.1 Is there a convincing need for the programme with a viable level of applications?

YES. This programme is primarily aimed at graduates from the CIT B.Eng. (Hons) in Structural Engineering or other closely related programmes. Since 2006, 262 students have graduated from the B.Eng. programme and the department currently has over 300 registered students all of whom could potentially progress to the M. Eng. programme.

In accordance with the 1999 Bologna Declaration all post 2013 engineering graduates will require a masters level qualification in order to satisfy Engineers Ireland’s educational requirements for Chartership (C.Eng). This will undoubtedly fuel future demand for the programme. C.Eng status as conferred by Engineers Ireland is a formal recognition of professional competence and is essential to engineering graduates seeking to advance their careers. This programme is the only one of its type within the Institute of Technology sector in the region.

Recommendation(s):

- (a) That the proposers should update their documentation to reflect that fact that the programme in its current form is only suitable for graduates from the B.Eng. (Hons) Structural Engineering or other closely related programmes.
- (b) That the proposers should consider broadening their student intake options beyond graduates of Civil/Structural Engineering in order to increase the number of potential applicants and ensure the future viability of the programme. Such broadening could be facilitated by keeping the programmes module balance under review and replacing modules where appropriate. Graduates of Environmental Science with relevant experience could be ‘bridged’ onto the programme using modules from the existing B.Eng. (Honours) in Structural Engineering, or through initiatives such as the HEA’s Springboard programme.
- (c) Apart from the steps mentioned in (b) above, Recognition of Prior Learning should be used on a case by case basis to support entry to the course.
- (d) That the proposers should update their programme documentation to highlight the differences between this programme and (for example) the M.Eng.Sc. in Sustainable Energy offered by University College Cork.

Requirement(s): None

2.2 Are the level and type of the proposed award appropriate?

YES. This 90 credit, one year duration, taught masters delivery model is consistent with other taught masters provision across the Institute. All modules are at CIT’s “expert” level, except Ocean Energy Conversion, Strategic Business Management and Environmental Management which are at “advanced” level. This programme aligns well with HETAC Level 9 descriptors.

Recommendation(s):

- (a) That the proposers should update their programme documentation to explicitly mention the award standards particular to this type of programme.

Requirement(s): None

2.3 Is the learning experience of an appropriate level, standard and quality?

YES Many of the modules on the programme are existing pre-approved modules from across the Institute and there are five new 5 credit modules that are to be approved as part of the current validation process. The pre-approved modules are currently delivered within the institute on similar programmes and are subject to the Institute's Quality Assurance processes. All of these modules are of appropriate academic standard and are appropriate to the learners' needs.

Recommendation(s):

- (a) That appropriate modules would be updated to include increased reference to the topics of Stakeholder Management and Ethics.
- (b) That either of the modules Biofuel and Biomass Technology or Environmental Management should be updated to contain a direct reference to Directive 2008/98/EC on waste (Waste Framework Directive).
- (c) That the proposers should consider incorporating a laboratory element into either of the following modules Water and Wastewater Engineering or Advanced Geotechnical & Foundation Engineering.
- (d) That the Project Realisation module should have Engineering Research Skills and Project Development as pre-requisites.
- (e) That appropriate modules would be updated to include increased reference to Soft Skills such as presentations, group work and other communication tools.
- (f) That module titles should be allowed to exceed 30 characters to improve readability.
- (g) There is considerable imbalance in contact hours per module in semester 2. This should be looked at with a view to rebalancing. A possible approach would be to transfer some material from Water and Wastewater Treatment (which has 4.5 hours of teaching) into the Environmental and Energy Engineering Infrastructure module.
- (h) Consideration should be given to allowing the students to hand up some assignments during weeks 13-15 of semester 1 and 2. This would provide a more balanced student workload.
- (i) The panel has some concerns about the assessment workload. This impacts on both staff and learners. The assessment load should be reviewed after one year by the course team, and regularly thereafter.

Requirement(s): None

2.4 Is the programme structure logical and well designed (including procedures for access, transfer and progression)?

YES. The programme consists of ten mandatory 5 credit modules and two elective 5 credit modules (from a choice of seven) along with a 30 credit capstone Project Realisation module. These modules are delivered across three semesters and as presented there are no barriers to progression between semesters. Students will have formal academic support for the Project Realisation module up to late June and from early September until the date of submission. The provision for a 'step off' post graduate diploma on successful completion of semesters one and two is appropriate.

The modules offered cover all of the appropriate technical aspects of the subject area and broadening is offered by the project preparation modules and the opportunity to take electives in the business sphere. Entry requirements are appropriate for an award of this type and the programme corresponds with the CIT Modularisation and Semesterisation guidelines.

Recommendation(s):

- (a) That the proposers consider a regulation that students would have obtained 50 credits (including those associated with the project preparation) prior to progressing to the Project Realisation phase of the programme. (It is noted that this might have implications for the Institute's general approach to Masters/Postgraduate Diplomas).
- (b) That the number of electives in Semester 2 be increased from one to two to allow for the instance where a student decides from the onset of the programme that he/she only wishes to pursue the taught elements

of the programme, and take a Postgraduate Diploma. The elective list should include the Project Development module.

Requirement(s): None

2.5 Are the programme management structures adequate?

YES. A Programme Board will operate, in line with the institutes QA system. The Programme Board will include a student member. A programme coordinator will be appointed by the Head of Department. The role of external examiners is established throughout CIT and the department has very strong links with industry partners.

The Panel noted the cohesiveness and enthusiasm of the course team, which augurs well for the future success of the programme.

Recommendation: None

Requirement: None

2.6 Are the resource requirements reasonable?

YES. The panel was assured by the Head of Faculty on behalf of CIT that the costing model for the programme is acceptable to CIT and that the delivery of the course can be provided as presented without compromise. The physical resources within the department are adequate and the programme staff is highly motivated, enthusiastic and qualified to deliver the programme.

Recommendation: None

Requirement: None

2.7 Will the impact of the programme on the Institute be positive?

YES. There is a good fit with the Institute's strategic plan. The panel acknowledges the extra burden that the programme delivery will place on the existing administrative and technical support staff.

Recommendation: None

Requirement: None

3. Conclusions

The Panel recommends that the programme be validated with due regard to the recommendations made.