

Report of Validation Panel

Date of Meeting: 4th June 2019

Named Award: Bachelor of Science
Programme Title: Bachelor of Science in Engineering Services Management
Award Type: Bachelor of Science
Award Class: Major Award
NFQ Level: 7
Intakes Commencing: September 2019
ECTS/ACCS Credits: 60

PANEL MEMBERS

| Name |
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| Dr Frances Hardiman, Head of Faculty of Engineering, Institute of Technology Carlow (Chair) |
| Mr Mark Keyes, Operations Leader, Learning and Innovation Centre, TU Dublin |
| Mr Sean Lane, Group Planning Manager, Dornan Group |
| Mr John Lynch, Contracts Manager, EPS Group |
| Dr Catherine Frehill, MTU Project - Academic Affairs Project Leader, Cork Institute of Technology |

PROPOSING TEAM MEMBERS

| Name |
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| Dr Matt Cottrell, Head, School of Mechanical, Electrical and Process Engineering, |
| Dr Michael J. O'Mahony, Head, Department of Process, Energy and Transport Engineering |
| Mr Fergus Delaney, Lecturer, Department of Process, Energy and Transport Engineering |
| Mr William Bateman, Lecturer, Department of Process, Energy and Transport Engineering |
| Mr Ger O'Leary, Managing Director, Winthrop Engineering Ltd., Waterford |
| Mr Ted McKenna, Lecturer, Department of Civil, Structural and Environmental Engineering |
| Ms Ann-Marie O'Donoghue, Lecturer, Department of Organisation and Professional Development |
| Mr Kevin Barry, Lecturer, Centre of Craft Studies |
| Mr Eamonn Sheffron, Lecturer, Centre of Craft Studies |
| Mr Kevin Coleman, Lecturer, Department of Construction |
| Mr Keith McMullan, Lecturer, Department of Process, Energy and Transport Engineering |

BACKGROUND TO THE PROPOSED PROGRAMME

This proposal seeks validation of a 60-credit add-on Bachelor of Science in Engineering Services Management. This programme has been designed to be offered in apprenticeship mode and will be delivered on a blended learning basis over two years where learners will spend approximately 70% of the programme duration with their employers.

Through the National Skills Strategy 2025, the Action Plan for Education 2016-2018 and as part of the current Programme for Government, Ireland aims to significantly grow work-based learning over the coming five years using the apprenticeship and traineeship modes of learning and skills development.

Prior to the validation panel, the programme team have completed stages 1 to 5 of the National Apprenticeships Development and Approval as set out by the Apprenticeship Council¹. In 2015, the initial proposal for this apprenticeship was submitted by the Construction Industry Federation (CIF) as the coordinating body with CIT as the coordinating provider. Following approval for development from the Apprenticeship Council, a Steering Group, chaired by CIF was formed to develop the programme. The Occupational Profile was approved by the Apprenticeship Council in January 2019 (Appendix A). Following approval of programme validation and QA, the next stages of the programme development may involve the creation of an Industrial Training Order with SOLAS if the occupation is not covered by Industrial Training Order (Engineering Industry). Implementation and roll-out of the programme is planned immediately and will involve the registration of apprentices and approval of employers. The first delivery of the programme is planned for September 2019.

¹ Action Plan to expand Apprenticeship and Traineeship in Ireland 2016-2020, DoES (2016)

FINDINGS OF THE PANEL

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*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 ongoing monitoring.*

The Panel has considered the documentation provided and has discussed the programme with the proposers. Based on this, the Panel has arrived at a number of Findings, Requirements and Recommendations as follows.

1. Programme-Level Findings

1.1 NEED FOR THE PROGRAMME

Validation Criterion: Is there a convincing need for the programme with a viable level of applications?

Overall Finding: Yes

1.2 AWARD

Validation Criterion: Are the level and type of the proposed award appropriate?

Overall Finding: Yes

1.3 LEARNING EXPERIENCE

Validation Criterion: Is the learning experience of an appropriate level, standard and quality overall?

Overall Finding: Yes, subject to requirements.

The proposed Programme Outcomes as presented to the Panel on the 4th June are attached as Appendix 2. Findings, requirements and recommendations concerning individual modules are recorded in Section 2 below.

1.3.1 Requirement: The panel requires the proposers to complete the educational aim of the programme.

1.3.2 Requirement: The role of an Engineering Services Manager should be detailed in the proposal documentation.

1.4 PROGRAMME STRUCTURE

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

Overall Finding: Yes, subject to Requirements

The Semester Schedules as proposed for the Bachelor of Science in Engineering Services Management are shown in Appendix 3.

1.4.1 Requirement: The panel requires the proposers to clarify the entry criteria (including clear RPL) to the programme.

1.4.2 Requirement: The panel requires the proposers to identify clear progression routes for the learners upon completion of the Bachelor of Science in Engineering Services Management.

1.4.3 Requirement: The panel requires the proposers to map the Approved Occupational Profile (Appendix A) against the module learning outcomes to verify the programme meets the profile requirements.

1.4.4 **Requirement:** The panel requires the proposers to develop an assessment matrix for the programme.

1.4.5 **Requirement:** The panel requires the proposers to identify the software skills required prior to entry onto the programme e.g. word, power-point and/or excel. If these are not an entry requirement, the proposers need to identify where learners will be taught these packages.

1.5 PROGRAMME MANAGEMENT

Validation Criterion: Are the programme management structures adequate?

Overall Finding: Yes, subject to Requirements and one Recommendation

1.5.1 **Requirement:** The panel requires the proposers to develop an induction plan and to outline the delivery structure of the proposed programme.

1.5.2 **Requirement:** The programme management needs to be clearly outlined in the programme documentation.

1.5.3 **Requirement:** The panel require the specification of the Mentor criteria and details of the mentor role, training and feedback mechanisms to be clearly outlined in the documentation.

1.5.4 **Recommendation:** The role and functions of the Steering Group, Industry Consortium and Programme Board need to be clearly outlined and agreed.

1.6 RESOURCE REQUIREMENTS

Validation Criterion: Are the resource requirements reasonable?

Overall Finding: Yes, subject to one Recommendation

The Panel was assured on behalf of the President by the Head of School that appropriate resources in terms of staffing and facilities will be put in place when the programme is validated.

1.6.1 **Recommendation:** The programme proposers indicated that a programme manager would be appointed prior to programme commencement. The role and functions of the programme manager need to be outlined in the proposal documentation.

1.7 IMPACT ON THE INSTITUTE

Validation Criterion: Will the impact of the programme on the Institute be positive?

Overall Finding: Yes

The panel commends the school, department and proposers in the development of this apprenticeship mode Bachelor of Science in Engineering Services Management. The development of the Occupational Profile and the programme structure with CIF, and consultation with companies and organisations is to be commended as it is in line with National Strategy.

2. Module-Level Findings

The Panel notes that 8 modules on the proposed programme are pre-approved modules which may be delivered across several CIT programmes.

The Panel notes there are 2 new draft modules. Prior to the validation panel meeting these new draft modules have not been the subject of internal or external scrutiny by the CIT module moderator or external reviewers.

In exercising its brief to consider the overall standard and appropriateness of modules, the Panel wishes to add the following findings, requirements and recommendations.

2.1 ALL MODULES

2.2.1 Requirement: Any revisions to Module Descriptors or Semester Schedules made to address the recommendations and requirements in this require sign-off from the CIT Module Moderator and the Registrar's Office prior to approval by the CIT Academic Council.

2.2.2 Requirement: While approved modules are selected, the proposers indicated that delivery of modules would not be shared. The learning outcomes of all modules should be revised to ensure all modules are at intermediate level and aligned to ensure the learning outcomes of the Approved Occupational Profile are met. Where appropriate new modules should be developed.

2.2.3 Requirement: Although eight approved modules are selected, the books and resources are out of date for a new programme. All module resources should be updated and should refer to books from 2016 onwards in most cases.

2.2.3 Requirement: The coursework breakdown across the module descriptors would be reviewed and revised where necessary to clarify the actual assessment deliverables and to ensure the spacing and timings of the assessments are appropriate.

2.2.4 Requirement: The assessment of the modules should be reviewed to ensure the type of assessment is appropriate to the type of learning.

2.2 Modules

2.2.1 Industry Practice Research and Industry Practice Application

Requirement: The learning outcomes of the module should be reviewed to ensure alignment with the Occupational Profile.

Requirement: The module descriptor should be reviewed to clarify both the full-time and part-time workload description.

Requirement: The assessment should be revised to ensure appropriate assessment techniques and the proposers should consider the development of a Personal Development Plan, presentations and a work portfolio as forms of assessment.

Requirement: Module Resources should be revised.

2.2.2 BULD7003: Industrial Building Services

Requirement: The learning outcomes of the module and content should be revised to include general systems and engineering services.

2.2.3 MGMT7060: People Management

Requirement: The module recommendations should be removed.

Requirement: The assessment description refers to a capstone project. The panel requires this to be revised as capstone usually refers to final projects or final application; however, this module is delivered in semester 1.

Recommendation: The indicative content and workload should be revised to include multiple role-play opportunities.

2.2.4 MANU7002: Services Project Manager

Requirement: The learning outcomes of the module should be revised to align at intermediate level.

Requirement: The learning outcomes and indicative content should be revised to include topics of project management e.g. project planning, scheduling, management and risk.

Requirement: The assessment description of the project must be updated to indicate the breakdown.

2.2.5 CRAF7005 Documentation Management

Requirement: The learning outcomes, indicative content and coursework should be revised to include topics of commissioning reports, compliance, recording and documentation control. The panel recommends the inclusion of databases in the module.

2.2.6 MANU7006 Maintenance and Utilities

Requirement: The coursework breakdown should be reviewed and revised to clarify the actual assessment deliverables. A practical element should be considered for this technical module.

2.2.7 INTR7019 Collaborative BIM 2

Recommendation: The proposers should consider a title change and an update of the module description for this module as the title implies and description refers to “further develop” BIM.

2.2.8 MANU7009 Lean Sigma Fundamentals

Requirement: The module recommendations should be removed and placed in the module description.

Requirement: The indicative content should be revised and expanded to indicate the content of the module and not include a description.

Requirement: The course work should be revised to include to include an applied project where DMAIC can be applied to an industrial setting.

Requirement: Online resources should be included.

3. Other Findings

At the validation meeting the panel were very supportive of the programme due to the constructive engagement during the panel sessions. The panel supported and encouraged further development of the programme in line with discussions, requirements and recommendations made by the panel.

The panel wishes to commend the staff and management on their energy, teamwork and enthusiasm and dedication in putting together the programme proposal.

4. Conclusion

Based on the above findings, the Panel has arrived at the following Conclusions:

- The Bachelor of Science in Engineering Services Management meets the required standards for an award in the Science field of study at Level 7 of the National Framework of Qualifications.
- The Programme meet the criteria for validation of a new programme adopted by the Academic Council of Cork Institute of Technology.

The Panel therefore recommends that the programme is validated for five academic years, or until the next programmatic review, whichever is soonest, subject to implementation of the Requirements above, and with due regard to the Recommendations made.

APPENDIX 1 – Proposed Programme Outcomes

Appendix 2 – Semester Schedules