TUS

Technological University of the Shannon: Midlands Midwest

Ollscoil Teicneolaíochta na Sionainne: Lár Tíre Iarthar Láir

www.tus.ie

**Dámh an Innealtóireachta agus na Faisnéisíochta
Faculty of Engineering and Informatics**

Department of Computer and Software Engineering

Report of External Validation Panel

External Validation Visit, 12th December 2023

for the

Master of Science in Software Design with Digitalisation, Level 9 (90 credits) & Associated Programmes:

Postgraduate Diploma in Science in Software Design with Digitalisation, Level 9 (60 credits)

Postgraduate Certificate in Science in Software Design with Digitalisation, Level 9 (30 credits)

Postgraduate Certificate in Science in Software Design Level 9 (30 credits)

Contents

1.1 INTRODUCTION

This report outlines in summary form, the proceedings and findings of the External Validation Panel visit for the proposed:

- Master of Science in Software Design with Digitalisation, Level 9 (90 credits)
- Postgraduate Diploma in Science in Software Design with Digitalisation, Level 9 (60 credits)
- Postgraduate Certificate in Science in Software Design with Digitalisation, Level 9 (30 credits)
- Postgraduate Certificate in Science in Software Design Level 9 (30 credits)

held on the 12th of December 2023. The external validation visit was undertaken in accordance with TUS Academic Regulations for the development of taught programmes. An external validation panel makes an independent impartial judgement on a programme proposal.

2.1 GENERAL INFORMATION

2.2   Higher Education Provider

Provider	Technological University of the Shannon: Midlands Midwest
Faculty	Faculty of Engineering and Informatics
Department	Computer and Software Engineering
Date of Visit	12th of December 2023

2.3   Programmes Evaluated

Programme Title	Master of Science in Software Design with Digitalisation
Award Title	Master of Science in Software Design with Digitalisation
NFQ Level	Level 9
ECTS Credits	90 ECTS
Award Class	Master of Science
Delivery Mode	Full Time
Duration	1.5 years
Proposed Starting Date	September 2024
Contact	Dr. Enda Fallon

Programme Title	Postgraduate Diploma in Science in Software Design with Digitalisation, Level 9
Award Title	Postgraduate Diploma in Science in Software Design with Digitalisation, Level 9
NFQ Level	Level 9
ECTS Credits	60 ECTS
Award Class	Postgraduate Diploma
Delivery Mode	Full Time
Duration	1 year
Proposed Starting Date	September 2024
Contact	Dr. Enda Fallon

Programme Title	Postgraduate Certificate in Science in Software Design with Digitalisation, Level 9
Award Title	Postgraduate Certificate in Science in Software Design with Digitalisation, Level 9
NFQ Level	Level 9
ECTS Credits	30 ECTS
Award Class	Postgraduate Certificate
Delivery Mode	Full Time
Duration	1/2 year
Proposed Starting Date	September 2024
Contact	Dr. Enda Fallon

Programme Title	Postgraduate Certificate in Science in Software Design Level 9 (30 credits)
Award Title	Postgraduate Certificate in Science in Software Design Level 9 (30 credits)
NFQ Level	Level 9
ECTS Credits	30 ECTS
Award Class	Postgraduate Certificate
Delivery Mode	Full Time
Duration	1/2 year
Proposed Starting Date	September 2024
Contact	Dr. Enda Fallon

2.4   External Validation Panel of Expert Assessors

Name	Affiliation
Mr. John Vickery	Former Registrar, IT Tallaght (Chairperson)
Professor Willie Donnelly	A/Director of Research, Development and Innovation, THEA
Deepak Yadav	Machine Learning Engineer, Circana
Dr. Martin McHugh	Head of Department, Visual and Human-Centred Computing, DKIT
Dr. Mamoona Asghar	Assistant Professor of Computer Science, University of Galway

Secretary to Panel: Dr. Patrick Donohue

2.5   TU Staff

Name	Affiliation
Dr. Sean Lyons	Dean of Faculty of Engineering and Informatics
Dr. Enda Fallon	Head of Department of Computer and Software Engineering
Programme Team: Jeffrey Buckley, Thiago Braga, Paul Jacob, Sean Kennedy, Cormac MacGiollaEain, Roger Young	

3.1 FINDINGS AND RECOMMENDATIONS OF EXTERNAL VALIDATION PANEL

3.2 Main Findings

The External Validation Panel of Assessors recommends approval of the proposed programmes and associated embedded awards:

- Master of Science in Software Design with Digitalisation, Level 9 (90 credits) & Associated Programmes:
- Postgraduate Diploma in Science in Software Design with Digitalisation, Level 9 (60 credits)
- Postgraduate Certificate in Science in Software Design with Digitalisation, Level 9 (30 credits)
- Postgraduate Certificate in Science in Software Design Level 9 (30 credits)

3.3 Conditions

No conditions apply.

3.4 Recommendations

1) Consider how to communicate the programme to other regional industries beyond the Manufacturing sector. Develop new case studies to support this process.
2) Address the module learning outcomes for the new module.
3) Include more content on fairness, ethical and transparent machine learning for relevant industries.
4) Include Digital Twin for the new module on *Digital Strategies for Advanced Manufacturing*.
5) Consider reviewing the use of PASS/FAIL in Semester 3 components to normalise the marking process between those taking the Dissertation and those taking the Work Placement. This will assist in the portability of the qualification.
6) Swap the percentage of Final Exams to 60% and Continuous Assessment to 40% where appropriate.
7) Amend the module leaning outcomes where they are not following best practice guidelines in describing outcomes.
8) Consider conducting MCQ's in a controlled environment for modules *Object Oriented Programming 1 and 2* and other modules where MCQ's are applied.

9) Consider including Python when teaching OOP principles.

10) Make corrections in the document to the very small number of errors/omissions in the document.

11) Update texts in several of the modules.

3.5 Commendations and Observations

1) The panel appreciated the detailed discussions and clarifications provided by the programme team.

2) The panel commends the quality of the programme submission and documentation and noted its comprehensive nature.

3) The panel would like to commend the team for their active and enthusiastic engagement with the panel.

Signature of Chairperson

Date: 30/12/2023