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Dámh na hEolaíochta Feidhmí agus na Teicneolaíochta
Faculty of Applied Science and Technology

Roinn Teicneolaíochta Faisnéise
Department of Information Technology

Report of Differential Validation Panel

held on 14/06/2024

for the
Master of Science in Computing (Computer Science for Teachers) (90 ECTS credits)
and embedded
Postgraduate Diploma in Science in Computing (Computer Science for Teachers) (60 ECTS credits)
and embedded Special Purpose Awards:
Postgraduate Certificate in Computing (Computer Science for Teachers) (30 ECTS credits)
Certificate in Coding and Computational Thinking (10 ECTS credits)
Certificate in Coding for Embedded Systems (10 ECTS credits)
Certificate in Web Development and Computer Systems (10 ECTS credits)
Certificate in Programming in Python (10 ECTS credits)
Certificate in Computers and Society (10 ECTS credits)
Certificate in Databases and Data Analytics (10 ECTS credits)

1.0 INTRODUCTION

This report outlines, in summary form, the proceedings and findings of the differential validation visit for the proposed Master of Science in Computer Science (Computer Science for Teachers) and associated embedded awards. The differential validation visit was undertaken in accordance with TUS Academic Regulations. A differential validation panel makes an independent impartial judgement on a programme proposal.

2.0 GENERAL INFORMATION

2.1 Higher Education Provider

Provider	Technological University of the Shannon
Faculty	Applied Sciences and Technology
Department	Information Technology
Date of Visit	14th June 2024

2.2 Programme Evaluated

Programme Title	Master of Science in Computer Science (Computer Science for Teachers)
Award Title	Masters of Science
NFQ Level	9
ECTS Credits	90
Delivery Mode	Full-time
Duration	1 year
Proposed Starting Date	September 2024

Programme Title	Postgraduate Diploma in Computer Science (Computer Science for Teachers)
Award Title	Postgraduate Diploma
NFQ Level	9
ECTS Credits	60
Format	Postgraduate Diploma
Delivery Mode	Full-time
Duration	1 year
Proposed Starting Date	September 2024

Programme Title	Postgraduate Certificate in Computer Science (Computer Science for Teachers)
Award Title	Postgraduate Certificate
NFQ Level	9
ECTS Credits	30
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Certificate in Coding and Computational Thinking
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Certificate in Coding for Embedded Systems
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Web Development and Computer Systems
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Certificate in Programming in Python
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Certificate in Computers and Society Thinking
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Format	Special Purpose Award Certificate
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

Programme Title	Certificate in Databases and Data Analytics
Award Title	Special Purpose Award Certificate
NFQ Level	9
ECTS Credits	10
Delivery Mode	Part-time
Duration	Semester
Proposed Starting Date	September 2024

2.3 Differential Validation Panel of Expert Assessors

Name	Affiliation
Prof. Marie Parker Jenkins	Emeritus Prof. University of Limerick
Dr. Chris Exton	University of Limerick
Mr. Joe English	Oide
Mr. Micheal Butler	Student Representative
Dr. Brendan Murphy	Secretary to Panel
Claire Frawley	Quality Officer

2.4 TU Staff

Name	Affiliation
Dr Maura Clancy	Dean of Faculty of Applied Science and Technology
Dr. Janice O'Connell	Head of Department of Information Technology
Programme Leaders	Sharon Byrne, Natasha Kelly, Pamela O'Brien

2.5 Documentation

1) Proposed Programme Documents.
2) Summary of Comparative Programme Changes.
3) TUS Policy and Procedures for Differential Validation Policy if a Major Award.

3.0 FINDINGS AND RECOMMENDATIONS OF EXTERNAL VALIDATION PANEL

3.1 Findings

The External Validation Panel of Assessors recommends approval of the proposed:

- Master of Science in Computing (Computer Science for Teachers) (Level 9, 90 ECTS credits) and embedded
- Postgraduate Diploma in Science in Computing (Computer Science for Teachers) (Level 9, 60 ECTS credits)

and embedded Special Purpose Awards:

- Postgraduate Certificate in Computing (Computer Science for Teachers) (Level 9, 30 ECTS credits)
- Certificate in Coding and Computational Thinking (Level 9, 10 ECTS credits)
- Certificate in Coding for Embedded Systems (Level 9, 10 ECTS credits)
- Certificate in Web Development and Computer Systems (Level 9, 10 ECTS credits)
- Certificate in Programming in Python (Level 9, 10 ECTS credits)
- Certificate in Computers and Society (Level 9, 10 ECTS credits)
- Certificate in Databases and Data Analytics (Level 9, 10 ECTS credits)

subject to the recommendations specified in Sections 3.2 and 3.3, respectively:

3.2 Conditions

No conditions apply.

3.3 Recommendations

1) Review the entry requirements for 'non-cognate' entrants to further support the accessibility of the programme;
2) Amend the award title of the special 30 ECTS Credit, Special Purpose Award, in *Computing (Computer Science for Teachers)* to Postgraduate Certificate.
3) Consider how methodologies, particularly active learning and constructivism permeates the programme, including into the teaching and learning strategy, module learning outcomes, assessment and recommended reading for learners.
4) Review how specific pedagogies related to Computer Science may be included into teaching and learning strategy, module learning outcomes, assessment and recommended reading for learners.
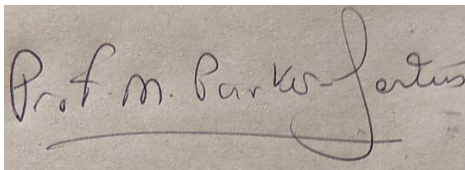5) Incorporate further learning on 'modelling and simulations' into the programme.

6) Explore the means by which a greater focus could be placed on the alignment of senior cycle key competencies and learning outcomes.
7) Ensure that recent and relevant literature underpins each of the Module Resources lists.

3.4 Commendations and Observations

The panel commend the programme team for:
1) their foresight in developing an innovative and excellent programme that supports teachers in a critical skills area identified by national policy documents;
2) the excellent alignment with the Leaving Certificate Computer Science curriculum specification in a manner that is reflective of its early enactment review;
3) the attention given to the future proofing of the programme;
4) the emphasis on accessibility including the range of special purpose awards and blended learning mode of delivery;
5) the adjustment and reallocation of directed to independent learning in a manner that supports learning, including the use of asynchronous and external learning resources;
6) the comprehensive documentation including the rationale for the programme changes, comparative mapping and revised programme document.

The panel appreciated the detailed and rigorous discussions and the helpful clarifications provided during the validation visit.

Prof. M. Parker-Jarvis

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Signature of Chairperson

Date: __20__/_08_/_2024___