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Faculty of Engineering & Informatics

Department of Computer & Software Engineering

Report of Differential Validation Panel

Differential Validation Panel,

for the following suite of programmes:

Master of Science in Software Engineering (full time & part time) (60 ECTS)

Master of Science in Software Design with Artificial Intelligence (Full-time & Part-time) (90 ECTS)
Postgraduate Diploma in Science in Software Design with Artificial Intelligence (60 ECTS)
Postgraduate Certificate in Science in Software Design with Artificial Intelligence (30 ECTS)

Master of Science in Software Design with Cyber Security (Full-time & Part-time) (90 ECTS)
Postgraduate Diploma in Science in Software Design with Cyber Security (60 ECTS)
Postgraduate Certificate in Science in Software Design with Cyber Security (30 ECTS)

Master of Science in Software Design with Cloud Native Computing (Full-time)
Postgraduate Diploma in Science in Software Design with Cloud Native Computing (60 ECTS)
Postgraduate Certificate in Software Design with Cloud Native Computing (30 ECTS)

Master of Science in Software Design with Digitalisation (Part-time) (90 ECTS)
Post Graduate Diploma in in Science Software Design with Digitalisation (Part-time) (60 ECTS)
Postgraduate Certificate in Science in Software Design with Digitalisation (30 ECTS)

Postgraduate Certificate in Science in Software Design (30 ECTS)

2nd May 2024

Contents

1.0 INTRODUCTION

This report outlines, in summary form, the proceedings of the differential validation visit for the listed programmes in the Department Computer & Software Engineering and the findings and conclusions of the Panel held on 2nd May 2024. The validation 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

Institute: Technological University of the Shannon
Faculty: Business and Humanities
Department: Computer & Software Engineering
Date of Visit: 2nd May 2024

2.2 Programmes Evaluated

Programme	Master of Science in Software Engineering
Award Title	Master of Science
NFQ Level	Level 9
ECTS Credits	60
Format	Masters Degree
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Master of Science in Software Design with Artificial Intelligence
Award Title	Master of Science
NFQ Level	Level 9
ECTS Credits	90
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Diploma in Science in Software Design with Artificial Intelligence
Award Title	Postgraduate Diploma
NFQ Level	Level 9
ECTS Credits	60
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Certificate in Science in Software Design with Artificial Intelligence
Award Title	Postgraduate Certificate
NFQ Level	Level 9
ECTS Credits	30
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Master of Science in Software Design with Cyber Security
Award Title	Master of Science
NFQ Level	Level 9
ECTS Credits	90
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Diploma in Science in Software Design with Cyber Security
Award Title	Postgraduate Diploma
NFQ Level	Level 9
ECTS Credits	60
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Certificate in Science in Software Design with Cyber Security
Award Title	Postgraduate Certificate
NFQ Level	Level 9
ECTS Credits	30
Delivery Mode	Full-time/Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Master of Science in Software Design with Cloud Native Computing
Award Title	Master of Science
NFQ Level	Level 9
ECTS Credits	90
Delivery Mode	Full-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Diploma in Science Software Design with Cloud Native Computing
Award Title	Postgraduate Diploma
NFQ Level	Level 9
ECTS Credits	60
Delivery Mode	Full-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Certificate in Science in Software Design with Cloud Native Computing
Award Title	Postgraduate Certificate
NFQ Level	Level 9
ECTS Credits	30
Delivery Mode	Full-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Master of Science in Software Design with Digitalisation
Award Title	Master of Science
NFQ Level	Level 9
ECTS Credits	90
Format	Masters Degree
Delivery Mode	Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Post Graduate Diploma in Science in Software Design with Digitalisation
Award Title	Postgraduate Diploma
NFQ Level	Level 9
ECTS Credits	60
Format	Postgraduate Diploma
Delivery Mode	Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Certificate in Science in Software Design with Digitalisation
Award Title	Postgraduate Certificate
NFQ Level	Level 9
ECTS Credits	30
Delivery Mode	Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

Programme	Postgraduate Certificate in Science in Software Design
Award Title	Postgraduate Certificate
NFQ Level	Level 9
ECTS Credits	30
Delivery Mode	Part-time
Proposed Start Date	September 2024
Duration	1.0 Year

2.3 Differential Validation Panel of Expert Assessors

Name	Affiliation
Emeritus Prof. Marie Parker-Jenkins, University of Limerick	
Prof. Willie Donnelley	Emeritus President of Waterford Institute of Technology
Deepak Yadav	Student Representative/Circana
John Mee	CEO of GlobalLogic
Dr. Brendan Murphy	Secretary to Panel
Claire Frawley	Quality Officer

2.4 Institute Staff

Dean of Faculty of Engineering & Informatics	Dr. Sean Lyons
Head of Department of Computer & Software Engineering	Dr. Enda Fallon

Programme Team

Dr. Mary Giblin

Dr. Mary Pidgeon

Dr. Mark Daly

Dr. Michael Russell

2.5 Documentation

1. Proposed Programme Documents.
2. Summary of Rationale for the Proposal.
3. Summary of Comparative Programme Changes.
4. Report of Original Programme Validation Panel.
5. TUS Policy and Procedures for Differential Validation Policy if a Major Award.

3.0 FINDINGS AND RECOMMENDATIONS OF EXTERNAL VALIDATION PANEL

3.1 Main Findings

The Panel of Assessors recommends approval of the proposed:

Master of Science in Software Engineering (full time & part time) (60 ECTS)

Master of Science in Software Design with Artificial Intelligence (Full-time & Part-time) (90 ECTS)
Postgraduate Diploma in Science in Software Design with Artificial Intelligence (60 ECTS)
Postgraduate Certificate in Science in Software Design with Artificial Intelligence (30 ECTS)

Master of Science in Software Design with Cyber Security (Full-time & Part-time) (90 ECTS)
Postgraduate Diploma in Science in Software Design with Cyber Security (60 ECTS)
Postgraduate Certificate in Science in Software Design with Cyber Security (30 ECTS)

Master of Science in Software Design with Cloud Native Computing (Full-time)
Postgraduate Diploma in Science in Software Design with Cloud Native Computing (60 ECTS)
Postgraduate Certificate in in Science Software Design with Cloud Native Computing (30 ECTS)

Master of Science in Software Design with Digitalisation (Part-time) (90 ECTS)
Post Graduate Diploma in Science in Software Design with Digitalisation (Part-time) (60 ECTS)
Postgraduate Certificate in Science in Software Design with Digitalisation (30 ECTS)

Postgraduate Certificate in Science in Software Design (30 ECTS)

3.2 Conditions

No conditions apply.

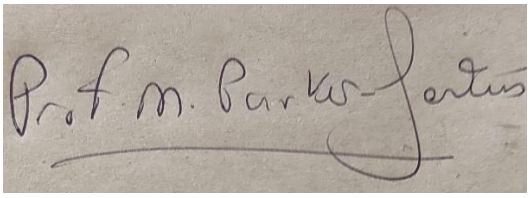
3.3 Recommendations

1) Make explicit the supports available to students including for independent learning, academic writing skills and English language supports in the relevant student handbooks.
2) Continue to support staff, including Part-time Lecturers, with appropriate CPD in order that they may better support student independent learning and its assessment.

3) Establish an appropriate mentoring framework for students to ensure that the learning outcomes are understood and achieved.
4) Conduct a review of the impact of the programme changes on student engagement and success rates, and on the integrity of the programmes, as part of ongoing reflection and monitoring.

3.4 Commendations and Observations

1) The panel thank the programme team for the comprehensive documentation including the rationale for the programme changes, comparative mapping and revised programme documents.
2) The panel commend the adjustment and reallocation of class contact to independent learning in a manner that is constructive.
3) The panel commend the team for utilising the opportunity to refresh the overall programme offering, including the updates to the Module Descriptors.
4) The panel appreciated the detailed and constructive discussions and the helpful clarifications provided by Management and the Programme Team.
5) The panel commended the openness of the programme team to CPD and the development of pedagogy.
6) The panel commend the evident team approach to the review and during the panel visit.



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Signature of Chairperson

Date: ___20_/_08_/_2024___

4.0 APPENDIX

9.30am PRIVATE MEETING OF ASSESSORS

The Chairperson, Prof. Marie Parker Jenkins welcomed all members and outlined the purpose and context of the meeting and noted that the panel acts on behalf of the Academic Council to validate new programmes for the University. The Chairperson asked panel members to introduce themselves and to give their initial impressions with respect to the programme and the documentation.

The Chairperson noted that the programme has been originally validated June 2019 and had also subsequently undergone a programmatic review. It is now being presented as part of the current differential validation process to align the programme with the *TUS Framework for Taught Masters Programmes* approved by TUS Academic Council in December 2023. The presentation of the programme through differential validation is to align a revised programme with this principle and to adjust the associated directed and independent learning hours.

The panel noted the comprehensive documentation received and noted that they are broadly supportive of what they are trying to achieve. They identified a range of areas to explore further with the management and programme teams including: the logic behind the reduction in hours; if they any additional supports are being provided to students; how they ensure that the learning outcomes are still maintained within the context of the revised programme and how they will monitor the impact of the changes

10.30am MEETING WITH SENIOR MANAGEMENT

TUS Senior Management was represented by: Dean of Faculty of Engineering & Informatics, Dr. Sean Lyons and Head of Department of Computer & Software Engineering, Dr. Enda Fallon. The panel and team introduced themselves. The Chairperson thanked TUS for the invitation to review the proposed programme.

<u>Strategic Focus</u>

The Management team outlined the context of the differential validation in accordance with the Academic Council approved Framework for Taught Masters programmes. In keeping with the pedagogical principle of independent learner development, the TUS Framework specifies that “the contact delivery of a taught Masters programme is not more

than 14 hours". The team outlined how there has been a re-allocation of hours from directed to independent learning in the revised programme and an associated revision to the assessment strategy that take account of this change. The Dean of Faculty, Dr. Sean Lyons,

AC looked at the Masters programme outlined that the framework applies to all future programmes but it was also decided to apply it retrospectively to programmes where it would be appropriate to do so. It was felt that previously there may have been some over teaching and there is an acknowledgement of the importance of providing the right balance for the Masters programmes. Head of Department, Dr. Enda Fallon, provided a presentation that provided an overview of the programme and proposed changes covering; the range of programmes, ECTS credit allocation, semesterised structure, streams and the updating of specific modules across the programmes. It was noted that the programmes originated with a strong industrial focus through Springboard. The approach taken has been to retain a minimum of 3 hours of delivery to balance theory and practice with an allocation of 5 hours for a 10 ECTS module and 3 hours for a 5 ECTS module.

There are three modules to which 8 hours had been allocated and the panel queried why such a large quotient had been originally added. It was noted that programmes were originally developed as part of a wider suite of programmes and it was accepted now that 8 hours may have been too much. The time spent in lectures might have been better spent by the student in doing assignments and coursework. The current process is allowing a re set. The panel queried how the team would monitor if the revised programme actually benefited students. The team clarified that they are not adding to the overall commitment to the learning process but are moving the emphasis in terms of how students will use their time, directing their own learning. Self-directed learning skills are critical as part of graduate attributes. The panel noted the importance of building a mentoring framework to support independent learning, and of reflecting and stress testing this. Scaffolding and supporting the students would be critical. The team agreed and noted that the advantage of aligning to a single framework would mean that faculty level supports could be built and this would be a continuous process in developing supports.

Relevant Staffing, Facilities and Resource Issues

The panel discussed staffing, facilities and resources with the programme team and queried if the ratio of Full-time to Part-time staff was appropriate. The team confirmed that

there was adequate staffing in place and in house expertise to cover the curriculum. The programme require specialist skills and the Faculty is currently in the middle of a recruitment drive. The Faculty is constantly reiterating computer architecture and the online delivery architecture, as part of its ongoing development.

10.30am MEETING WITH PROGRAMME TEAM

The Chairperson welcomed the programme team to the meeting and both members of the panel and programme team introduced themselves. The Chairperson thanked the Head of Department for their contributions in the previous session and acknowledged the comprehensive programme documentation provided in advance of the visit. Additionally, the Chair was appreciative of the presentation from the Head of Department which clearly articulated and demonstrated the streams of offerings and the credit allocations.

The comparative mapping document was noted to be of assistance in easily identifying the changes to reflect reduced contact hours in line with the TUS Masters Framework. It was referenced that at a Faculty level, it was decided to review the hours allocated to directed learning activities per module to ensure that no excessive teaching hours were in place which would negatively impact on the student experience and conflict with the pedagogical principle of independent learner development in line with the TUS framework for taught masters programmes. The team noted that the review centred on the loading of student effort with specific reference to module level self-directed learning (study time, assignment completion, additional reading etc.) and scheduled directed learning (lecture attendance, tutorials, practical's etc.).

The panel and programme team reviewed each individual programme suite noting and discussing the updates, as relevant. The changes outlined in the comparative mapping template were reviewed in detail. The panel commended the adjustment and reallocation of class contact to independent learning in a manner that is constructive and also commended the team for utilising the opportunity to refresh the overall programme offering, including appropriate updates to the Module Descriptors.

The panel queried the range of supports that are available to students with a particular emphasis on supporting independent learning. The panel recommended that such supports should be made explicit in the student handbook, including for independent learning, academic writing skills and English language supports. In light of the changes it

would also be beneficial to establish an appropriate mentoring framework for students to ensure that the learning outcomes are understood and achieved.

The panel discussed the broad range of CPD that the programme team cited participation in and commended their openness to CPD and the development of pedagogy. In concluding comments the panel highlighted the importance of conducting a review of the impact of the programme changes on student engagement and success rates, and on the integrity of the programmes, as part of ongoing reflection and monitoring.

11.30am PRIVATE MEETING OF ASSESSORS

The panel reviewed draft minutes and discussed the contributions of Management and the Programme team. The panel indicated that they would be happy to approve the programme suite, with a small number of recommendations which would enhance the programmes when implemented. The wording of the recommendations was developed, and these are presented in Section 3.3 of this report. The panel noted several commendations and these are outlined in Section 3.4 of this report.

The panel noted the importance of ensuring that repeat students are appropriately facilitated to complete their programme of study in line with TUS Policy, following the commencement of the revised programme.

12.15pm MEETING WITH SENIOR MANAGEMENT

In the concluding session, the Chairperson of the External Validation Panel, Prof. Marie Parker Jenkins, briefed the Head of Department of Computer & Software Engineering, Dr. Enda Fallon, on the outcome of the day.

The Chairperson outlined the preliminary views of the validation panel and stated that the panel were happy to approve the proposed programme suite. The panel would make a small number of recommendations in the spirit of enhancing the programme suite. The Chairperson warmly complimented the staff on the considered revisions to the programmes. The Chairperson then provided an overview of the recommendations and commendations to the team.

Dr. Enda Fallon welcomed the findings and thanked the Chairperson and panel on behalf of TUS for their appraisal and for their comprehensive review. Dr. Fallon thanked the programme team for the worked involved.

The Chairperson, Prof. Marie Parker Jenkins, thanked the panel for their time and effort in the review of the programme.

12.30pm CONCLUSION

The external validation visit concluded.