Validation of Postgraduate Diploma

School of Enterprise Computing and Digital Transformation

6 June 2023

Programme Proposed for Validation

A panel was convened by the Faculty Board in the Faculty of Computing, Digital and Data to consider for validation a Postgraduate Diploma in Science in Human-Centred Artificial Intelligence Technologies being proposed by the School of Enterprise Computing and Digital Transformation.

The programme has been developed as a Postgraduate Diploma closely related to the Master of Science in Human-Centred Artificial Intelligence that was developed and successfully validated by the School in 2021. That Masters programme had been developed by a consortium (The HCAIM consortium) of Excellence Centres, small and medium enterprises (SMEs) and Universities led by TU Dublin, who won a competition to develop and deliver a Master's Programme in Artificial Intelligence (AI) with Ethical components that could also help to prepare SMEs for the impact on the use of AI of the EU Artificial Intelligence Act.

Part of the contractual commitment of the consortium was to develop and make available online learning material which would be available to other universities for a period two years. The work on this contract commenced in early 2021 and led to the development of a body of knowledge and associated learning materials for Masters programmes to be run in four locations, Dublin, Budapest, Naples and Utrecht.

The partners in this programme and learning material development are TU Dublin (lead partner), Stichting Hogeschool Utrecht, Università degli Studi di Napoli Federico II, Budapest University of Technology and Economics. Three Centres of Excellence are partners: National Research Council of Italy, University College Dublin, Fondatsiya Evropreyski Softueren Institut - Tsentar Iztochna Evropa; Three SMEs are partners: Citel Group Srl, Nathean Technologies Ltd, Real AI B.V.

In creating its programme proposals, the Consortium has consulted with a wide range of stakeholders including large ICT companies, SMEs and Excellence Centres to create a common body of knowledge around their Master's proposals. The initial focus of the programme development has been the education of 'Human Centered' AI developers in an industry application context.

The proposed Postgraduate Diploma is based on the first 60 ECTS credits of the Masters programme validated in TU Dublin with the following amendments:

1. Two of the existing modules, in Research Methods and Deep Learning have been replaced with an Artificial Intelligence Technologies project. The project module borrows content from both of those existing modules.
2. Two of the existing modules, in Data Analysis and Programming, and Statistics have been replaced with a module on Data Analytics, adapted because there is no longer a need to fully support the heavily mathematical and technical Deep Learning module.

3. The Business Technology Strategy module that is already validated as part of the other Masters programme in the School of Enterprise Computing and Digital Transformation has been incorporated into the programme.
4. Along with the modules, the programme learning outcomes from the Masters programme have been replaced with learning outcomes that reflect the level of learning (to the standard required for postgraduate diploma) and to reflect learning that is more focussed upon the application rather than the development of human-centred artificial intelligence technologies. This has been reflected in the proposed title for the programme which includes the term "Technologies" at the end of the title that was in place for he Masters programme.

Panel, Agenda and Documentation

The panel constituted by the Faculty Board met with the School on Tuesday, 6 June from 2-4pm to consider the proposal. The membership of the panel was as follows:

1. Dr Ciarán O'Leary, Head of Learning Development, Chairperson
2. Prof. Rossen Ivanov, School of Mathematics and Statistics
3. Ms Andrea Curley, School of Computer Science
4. Dr Gráinne Hurley, Quality Assurance Office

The following representatives of the School met with the panel:

- Dr Barry Feeney, Head of School of Enterprise Computing and Digital Transformation
- Dr Rajesh Jaiswal, School of Enterprise Computing and Digital Transformation
- Dr Fernando Perez Tellez, School of Enterprise Computing and Digital Transformation
- Dr Abdelsalam Busalim, School of Enterprise Computing and Digital Transformation
- Ms Mary Hendrick, School of Enterprise Computing and Digital Transformation

The agenda for the panel meeting was as follows:

- 2:00pm: Introduction
- 2:05pm: Presentation by School
- 2:20pm: Private Meeting of Panel
- 2:45pm: Meeting with School Management and Teaching Team
- 3:40pm: Private Meeting of Panel
- 3:55pm: Report to School

The panel had been provided with the following documentation in advance of the meeting:

1. Programme Validation Document
2. Student Handbook
3. Book of Modules (Export from Akari)
4. Programme Description (Export from Akari)

Validation Panel Outcome

The panel, having reviewed all documentation and having met with representatives of the School of Enterprise Computing and Digital Transformation, proposes to the Faculty Board and the University Programmes Board that the proposed programme is approved as a Postgraduate Diploma at Level 9 on the National Framework of Qualifications, subject to the School addressing the matters raised in this report to the satisfaction of the panel.

Commendations

The panel commends the School of Enterprise Computing and Digital Transformation on the following:

1. Successfully leading the European Consortium that has produced, to date, Masters programmes in each of the partners and a body of knowledge that supports an area of critical importance for the Information and Communications Technology (ICT) sector and society in general.
2. Addressing a need for graduates equipped with knowledge and skills in human-centred artificial intelligence and recognising the diverse profile of graduates required to meet this demand: including highly technical graduates and graduates with the skillset to apply relevant digital technology in the enterprise context.
3. Continuing to innovate in within the School's disciplines and building upon work that has taken place across the whole of the Faculty.
4. Developing high quality documentation for the panel to consider, setting out in depth the need for, design of, and proposed implementation of the programme; and developing the programme proposal by making full use of the Akari system.
5. The participation of the School in the panel meeting where clarification was provided on all matters raised and some very helpful discussion took place in relation to the programme and the sector more broadly.

Actions Required by School

The following actions are to be carried out by the School:

1. The panel welcomes the adaptation of the programme to address the requirements of a slightly less technical audience than the audience for the related Masters programme. However, the panel notes an imbalance whereby one target audience has an option to pursue a Masters without the option of a postgraduate diploma, and the other audience has the option of pursuing a postgraduate diploma but not a Masters (unless they take additional modules). While recognising that this programme was initially developed to meet the requirements of the Human Capital Initiative funding call, the School should give consideration over the coming academic year to looking holistically at the suite of related programmes (current and future) in human-centred artificial intelligence and proposing for validation a unified model that provides all students with comparable opportunities, perhaps as part of a single, streamed programme. This should not prevent the implementation of the currently proposed postgraduate diploma, but rather assist with its future evolution.
2. The School should give consideration to alternative titles that more clearly distinguish between the proposed programme and the existing Masters programme. The appending of the term "Technologies" may not be sufficient for students and employers to fully

understand the difference between the strongly technical focus of the Masters programme and the focus of the Postgraduate Diploma on the application of technology in enterprises.

3. The student handbook requires a detailed section on progression from the Postgraduate Diploma to a Masters qualification. Currently, the handbook identifies that progression opportunities are available but it does not describe the need for additional modules to be taken, recognising the distinction between the newly proposed modules and the modules on the Masters programme.

4. The student handbook should clearly set out the schedule for the programme in terms of what modules are offered in each semester. Care must be taken to ensure that students are not expected to take more than 30 ECTS credits of modules in a given semester.

5. The student handbook should include the overall assessment schedule for the programme, showing what forms of assessment are used for each module. Consideration should be given to how academic integrity will be assured given the selection of assessment methods.

6. A section should be added to the student handbook that describes the overall approach to learning and teaching for both the part-time and the full-time programme. The School's description of the programme as hybrid and blended needs to be fully explained so that students are informed about how they will participate in the programme. Reference should be made to the TU Dublin modalities in authoring this section.

7. Reference is made in the documentation to work placement, in relation to the Artificial Intelligence Technology project module. Further information is required on how this placement will be implemented and managed, with details required on the responsibilities of each of the stakeholders: the student, TU Dublin and the employer.

8. The language entry requirement for the programme needs to be explicitly stated to reflect TU Dublin policy.

9. The module descriptors in Akari should be updates so that the hours listed are the total hours for the module rather than the hours per week, and the indicative weeks for assessment are the submission rather than the release weeks. It is noted that there is a difference in contact hours between the part-time and full-time programme. The panel understand why this is the case and will clarify the TU Dublin policy on this matter.

10. The module learning outcomes in the Artificial Intelligence Technologies module should be rewritten to align with good practice and TU Dublin policy. Support will be available via the Head of Learning Development, if required, and via the following resources on the Academic Affairs (LTA) website: LTA Resources and Guides and Curriculum Management & Constructive Alignment.

11. The module overview for the Business Technology Strategy and Data Analytics modules to more accurately reflect the depth of learning that will be experience by the student.