Programme Review Report

TU859: Bachelor of Science (Honours) Computing (General Entry)
TU756: Bachelor of Science in Computing (General Entry)
TU652: Higher Certificate in Computing
TU099: Bachelor of Science (Honours) Computing with Software Development
TU098: Bachelor of Science in Computing with Software Development
TU862: Bachelor of Science (Honours) Computing with Machine Learning and Artificial Intelligence
TU865: Bachelor of Science (Honours) Cloud Computing
[TU068: Bachelor of Science (Honours) Computing with Information Technology Management – transfer option only]
Code TBC: Bachelor of Science in Computing (Add-On with options in Software Development; AI and Machine Learning; Cloud Computing)
Code TBC: Bachelor of Science in Computing (Add-On with options in Software Development; AI and Machine Learning; Cloud Computing)

Version of Report	Author	Date
1.0	Gráinne Hurley	23 May 2025

Approval	Date
Documentation for Review approved by Faculty Board	25/04/2025
Report of Programme Review Panel approved by AQAEC	Click or tap to enter a date.
New Programme Title approved by University Programmes Board (if applicable)	

Note on Programmes under Review
Two programmes TU859/B.Sc. (Honours) Computing (General Entry) and TU756/Bachelor of Science in Computing (General Entry) are being updated and modified from one year add-on programmes to full level 7 and 8 programmes that include 3 stream specialisations (Software Development; AI and Machine Learning; Cloud Computing).

The panel set out some pre-conditions (outlined at the end of Section E) to be met by the School to allow the School to continue to run the direct entry programmes in addition to the new common entry programmes. The continued use of both direct and general entry will be kept under review as part of the School's enrolment planning and marketing strategy, with the aim of phasing out direct entry.

Section A	Programme Details

Title	Bachelor of Science (Honours) Computing (TU859)
NFQ Level	8
ECTS Credits	240
Mode of delivery	Part-time ✓ Full-time ✓
Duration	Part-time: 2 Full-time: 4
Modality/ies of delivery	In-person, On-campus ✓ Blended ✓
	Online ✓ Hyflex ✓
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. Award Classification

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Discipline Programmes Board	Enterprise Computing and Digital Transformation
Faculty Board	Faculty of Computing
Schools involved in delivery	School of Enterprise Computing and Digital Transformation
Delivery location	Tallaght Campus
Collaborative Partner (where applicable)	Not Applicable
Date of Commencement of revised programme	September 2025

Section B	Awards

Award Title	Bachelor of Science (Honours) Computing (with options in AI and Machine Learning; Software Development; Cloud Computing)
NFQ Level	8
Award Class	Major
ECTS Credits	240
Classification of award	

Table 6.1. Award Classification

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (2) Title	Bachelor of Science in Computing (with options in AI and Machine Learning; Software Development; Cloud Computing)
Exit/Embedded	Exit ☐ Embedded ☒
NNFQ Level	7
Award Class	Major
ECTS Credits	180
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. Award Classification

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (3) Title	Higher Certificate in Science in Computing

Exit/Embedded	Exit ☐ Embedded ☒
NNFQ Level	6
Award Class	Major
ECTS Credits	120
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. Award Classification

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (4) Title	Bachelor of Science (Honours) Computing with Software Development
Exit/Embedded	Exit ☐ Embedded ☐
NNFQ Level	8
Award Class	Major
ECTS Credits	240
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. Award Classification

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (5) Title	Bachelor of Science in Computing with Software Development

Exit/Embedded	Exit ☐ Embedded ☒
NNFQ Level	7
Award Class	Major
ECTS Credits	180
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (6) Title	Bachelor of Science (Honours) Computing with Machine Learning and Artificial Intelligence
Exit/Embedded	Exit ☐ Embedded ☐
NNFQ Level	8
Award Class	Major
ECTS Credits	240
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (7) Title	Bachelor of Science (Honours) Cloud Computing

Exit/Embedded	Exit ☐ Embedded ☐
NNFQ Level	8
Award Class	Major
ECTS Credits	240
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below: *Table 6.1.* **Award Classification** _see table below_

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (8) Title	Bachelor of Science (Honours) Computing with Information Technology Management
Exit/Embedded	Exit ☐ Embedded ☐
NNFQ Level	8
Award Class	Major
ECTS Credits	240
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below: *Table 6.1.* **Award Classification** _see table below_

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (9) Title	Bachelor of Science in Computing (Add-On with options in Software Development; AI and Machine Learning; Cloud Computing)

Exit/Embedded	Exit ☐	Embedded ☒
NNFQ Level	7	
Award Class	Supplemental	
ECTS Credits	60	
Classification of award	The new University Assessment Regulations will be effective from September 2025 and a new GPA will apply to incoming students as outlined below:	

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Award (10) Title	Bachelor of Science in Computing (Add-On with options in Software Development; AI and Machine Learning; Cloud Computing)	
Exit/Embedded	Exit ☐	Embedded ☒
NNFQ Level	8	
Award Class	Supplemental	
ECTS Credits	60	
Classification of award		

Table 6.1. **Award Classification**

Grade Point Average (GPA)	Award Classification by Award Type	
	• Higher Certificate (NFQ L6) • Bachelor's Degree (NFQ L7) • Postgraduate Diploma (NFQ L9) • Postgraduate Certificate (NFQ L9)	• Honours Bachelor's Degree (NFQ L8) • Higher Diploma (NFQ L8) • Taught Master's Degree (NFQ L9)
3.60	Distinction	1st Class Honours
3.00	Merit Grade 1	2nd Class Honours, Upper Division
2.60	Merit Grade 2	2nd Class Honours, Lower Division
2.00[1]	Pass	Pass

Section C - Programme Derogations (if required)

Derogations from Assessment Regulations/Marks and Standards, requiring approval by University Programmes Board	
The School is not seeking any new derogations.	
University Programmes Board Approval	Date

Section D	**Review Process**

Date of Programme Review	14 May 2025

Context for Programme Review
How was the programme review process instigated, by whom/via which process?
The programme review was instigated by the School of Enterprise Computing and Digital Transformation in order to update and enhance its existing suite of programmes in response to the evolving needs of industry and to align with the University Education Model (UEM) and Strategic Intent. In December 2023 the school developed a paper '*Transitioning to a Choice based Curriculum that Aligns to Careers'* which outlined a proposal to re-develop the existing programmes suite into a type of core and specialisation structure (or Major-Minor structure) which would modernise the existing undergraduate offerings. This framework will facilitate better progression as well as UEM adoption. The Programme Review was carried out within the TU Dublin's Quality Framework Programme Review Policy and associated procedures and processes.
Please tick the type of programme review undertaken:

Full Programme Review ✓	Focused Programme Review ☐
If a focused programme review, what is/are the area(s) of focus? N/A	

Transitional arrangements		
How will changes to revised programme be implemented, i.e. to be implemented with immediate effect in the next academic year of delivery, or phased in on a year-by-year basis.		
Changes to the programmes will be implemented in September 2025. Interim schedules should be provided to reflect any changes. The School will need to engage with the Curriculum Management and Programme Data teams to discuss how the changes can be captured on the PMC and Banner to align with these transitional arrangements.		

Panel Members

Name	Role	Affiliation
Dr Julie Dunne	Chair	Head of School Food Science and Environmental Health, TU Dublin
Dr Daniel McSweeney	Internal panel member	Head of Discipline for Creative Digital Media, Interactive Technologies, and Games, TU Dublin
Lisa Hickey	External panel member	Principal Quality Engineer, Fidelity Investments
Dr Joseph Kehoe	External panel member	Lecturer in Computing, SETU
Dr Alireza Dehghani	External panel member	Principal Investigator Applied Research Group Lead, CeADAR, Ireland Centre for AI – NexusUCD
Dr Gráinne Hurley	Academic Affairs representative & secretary to the panel	Academic Affairs, TU Dublin

Schedule of Meetings

Time	Description	In attendance
09:00-09:15	Panel introductions	Panel only
09:15-10:00	Presentation by School	Head of School Head of Discipline Programme Co-ordinator(s) Year Tutors
10:00-10:45	Private meeting of panel	Panel only
10:45-12:00	Meet with programme leadership teams	Programme leadership teams
12:00-12:15	Panel break	Panel only
12:15-13:00	Meet with student representatives	Student representatives
13:00-13:45	Panel lunch (tour of facilities, if required)	Panel only
13:45-15:15	Meet with staff responsible for teaching modules	Members of the School
15:30-16:30	Private meeting of panel to discuss outcome	Panel only
16:30	Verbal report to School	Head of School Head of Discipline Programme Co-ordinator Programme Team

Section E	Programme Evaluation

Programme Review Process		
Was the programme review conducted in accordance with the Programme Review Process, i.e. were current students, graduates, employers, other appropriate stakeholders involved in the review process?	Yes ✓	No ☐

Comment:
The programme review was conducted in accordance with TU Dublin's Quality Framework's Programme Review Policy and associated processes and procedures.

The panel commended the School's depth of engagement with relevant stakeholders. Industry feedback formed a critical aspect of this programmatic review and involved an industry focus group meeting. A Graduate Survey was carried out and disseminated through LinkedIn and LinkedIn Graduate Groups. Student surveys were also conducted. Consideration was also given to external examiner feedback. The resulting insights and feedback formed an important part of the redesign and restructuring of the programmes. Please refer to the [Research informing programme review](#) section in the PSER.

Governance & Management		
Does the programme align with the University's Strategic Plan and the principles of the University Education Model, and relevant policies?	Yes ✓	No ☐
Comment: The design of the proposed new programme structure has been guided by the university's Strategic Plan and Education Model, as highlighted below: **Student-Centred Learning & Engagement** – Encouraging student autonomy and agency in shaping their learning path, integrating diverse modes of education, and fostering key skills such as leadership, teamwork, and entrepreneurship. Includes experiential learning and internship opportunities. **Connected, Internationalised Curriculum** – Co-created and delivered with industry in partnership with the student and with industry and community, HE, and international partners with an emphasis on knowledge application, sustainability, enquiry-based collaborative learning, and career development and research-led teaching integrates workplace, community, and global perspectives. **Diversity of Provision & Career Development** – Utilises apprenticeship and skills-based learning from Level 6 to Level 10 with a focus on experiential learning, professional practice, and real-world assignments. **Flexible & Innovative Teaching & Learning** – Leverages multiple teaching modalities, including in-person and online classes, flipped classrooms, guest speakers, and practical projects to allow students apply their knowledge in real world contexts. **Knowledge Creation & Application** – Supports research, scholarship, and innovation. Includes capstone projects and student participation in the Project Open Evening to present work to academic staff and industry professionals. **Highly Engaged Student Experience** – Collaborates with industry and community partners for enriched learning. Features guest speakers, industry-related projects, and opportunities for a 6-month internship with top organisations. **Access & Equal Opportunity** – Actively promotes inclusivity, ensuring equitable access to education regardless of socio-economic background, disability, gender, or culture. Supports a respectful and diverse university community. The panel was impressed with the School's meaningful engagement and alignment with the University's Strategic Plan and the UEM as evident in the embedding of sustainability and EDI in the curriculum; enabling autonomy over pathways; the provision of common modules across programmes and real-world engagement. Please refer to the Alignment with UEM section in the PSER.		
Do the Programme Management and Quality Assurance arrangements align to TU Dublin Quality Framework processes?	Yes ✓	No ☐
Comment: The School operates in accordance with the TU Dublin Quality Assurance and Enhancement processes.		

The panel recommended that the School utilise the University's QA evaluation processes to keep streams viable/under review (Recommendation 10).

Has the Annual Monitoring/Academic Quality Enhancement process been used to identify issues and actions that continually enhance the programme and student learning experience?	Yes ✓	No ☐

Comment:
Feedback is obtained from the programme team on a formal and informal basis with input from external examiners, year tutors, class representatives and teaching staff culminating in the annual monitoring report. Matters arising from the feedback are discussed during Programme Board meetings, as appropriate. Actions to address matters arising are agreed and implemented as soon as practicable.

Student Data		
On consideration of student recruitment data, is there evidence that there continues to be a market demand for the programme and that the programme remains viable?	Yes ✓	No ☐

Comment:
The School of Enterprise Computing and Digital Transformation has ambitious plans to increase student numbers in response to the increasing demand for its programmes from industry and students. A SWOT analysis revealed increased industry demand for graduates with Cloud Computing, AI and software skills, cross-disciplinary collaborations, continued collaboration with industry, and internationalisation of the curriculum. The various market and industry demands have significantly informed the review process and tailoring and enhancing of its programmes.

On consideration of student engagement, performance and progression data, are students engaging with their programme and performing as expected? If not, has this been acknowledged and addressed through the programme review process?	Yes ✓	No ☐

Comment:
The data for Year 1 retention shows a significant number of students not progressing due to various factors, including workload and personal circumstances. A detailed survey of Year 2 highlighted issues such as part-time work, timetable gaps, and the need for more interactive and practical sessions. The School identified the following challenges:

- **Workload Pressure**: Students reported feeling overwhelmed by the number of continuous assessments (CAs) and the clustering of deadlines.
- **Timetable Issues**: Long gaps between classes and the timing of lectures and labs were noted as problematic.

The School demonstrated a commitment to address access, retention and progression issues and enhance the overall student experience. By maintaining its broad range of entry and exit points it will be able to attract and retain a broader range of learners than using level 8 entry only.

Current support strategies include:

- **Computing Learning Support Centre**: Established to provide drop-in sessions, one-to-one support and pastoral care.
- **Assessment Review**: Introduction of more 10-credit modules and graded labs to balance the assessment load and reduce high-stakes assessments.

Based on student feedback, which included some areas for improvement including better timetabling, more interactive sessions, and improved library and lab facilities, the School's future actions include:

• **Monitoring Engagement**: Continued efforts to track and support student engagement through attendance records and individual follow-ups. • **Enhancing Learning Environment**: Plans to improve physical lab spaces and provide more flexible study areas.	

On consideration of graduate destination data, is there evidence that students are securing employment in the field or progressing to further study in the discipline?	Yes ✓	No ☐

Comment:
A high proportion of current and past students are employed by well recognised companies (multi-national, SME's, civil service and public sector) in the technology sector, who are providing products and services nationally and internationally as well as across many industry sectors including health, banking, pharma, retail, insurance, local government and the civil service. A recent graduate survey reveals that 96% of respondents are currently employed in ICT roles across a diverse range of leading organizations, including Fidelity Investments, AWS, General Motors, Salesforce, Guidewire, Zendesk, Workday, Google, SAP, Colgate-Palmolive, Paddy Power, IBM, Enterprise Ireland, South Dublin County Council, Dun & Bradstreet, Bank of America, Eir, and the Department of Social Protection. The remaining 4% are pursuing further education, with 2% enrolled in master's programs and 2% at PhD level.

Awards Standards		
Are the programme aims and learning outcomes clearly written using appropriate terminology?	Yes ✓	No ☐
Comment:		
Are the programme aims and learning outcomes aligned to the proposed level of the award on the NFQ in accordance with applicable Award Standards?	Yes ✓	No ☐
Comment:		
Will the curricula, teaching, learning and assessment methods enable students to reach the appropriate standard to qualify for the award(s)?	Yes ✓	No ☐
Comment:		
Is ongoing programme development appropriately informed by internal and external stakeholder input (including industry/practice, professional/regulatory bodies, and community organisations)?	Yes ✓	No ☐

Comment:
External factors have significantly influenced the direction and structure of the School's programmes. Rapid technological advancements, such as developments in artificial intelligence, cybersecurity, cloud computing, and data science, DevOps development and processes have necessitated regular updates to curricula to keep pace with industry standards. Employers increasingly expect graduates to possess not only theoretical knowledge but also practical, job-ready skills. As a result, computing programmes have shifted towards more applied learning, incorporating real-world projects, work placements, and industry collaborations to ensure graduates are well-prepared for evolving tech roles. Computing curricula are evolving to keep pace with technological advancements and societal demands, incorporating these technological fields. Programmes now offer specialized tracks aligned with industry needs. Practical experience is emphasized through industry collaborations. The global demand for digital skills has also shaped programme offerings. Government initiatives and policy frameworks promoting digital transformation, cybersecurity awareness, and innovation have placed pressure to align educational outcomes with national and international skills agendas. This has led to the

introduction of new specialisations, micro-credentials, and interdisciplinary modules that integrate computing with areas like business, healthcare, and sustainability. External accreditation bodies and quality assurance processes further ensure that academic standards meet the expectations of industry and society. In addition, sustainability has been integrated into the curricula including green computing and environmentally conscious practices.

Does ongoing programme development take account of relevant external discipline benchmarks and Professional Statutory and Regulatory Body requirements?	Yes ✓	No ☐
Comment:		

Programme Design		
Is the programme design informed by current development in the discipline and associated subject areas, having taken into consideration current trends, stakeholder feedback and market analysis?	Yes ✓	No ☐
Comment: As previously highlighted, a SWOT analysis revealed increased industry demand for graduates with Cloud Computing, AI and software skills, cross-disciplinary collaborations, continued collaboration with industry, and internationalisation of the curriculum.		
Is there a mechanism to ensure the input of external stakeholders in the ongoing development of the programme?	Yes ✓	No ☐
Comment: The School has established strong relationships with various stakeholders and is responsive to their feedback and demands.		
Is the programme curriculum well-structured with a logical progression of learning and development across the modules and stages?	Yes ✓	No ☐
Comment: The panel made some recommendations to reconsider/restructure some elements of the curriculum (see Recommendations 2-7).		
Are there appropriate opportunities for students to undertake work-based learning, through work placements or work-based projects or assignments?	Yes ✓	No ☐
Comment: The programmes include work placement at its core in Year 3. These off-campus internships offer students the opportunity to practice and develop their technical, project and professional (soft) skills in an industry setting. It is an opportunity for students to improve their social and professional networks as well as to determine the career paths they wish to pursue after graduation For a myriad of reasons, not all students can access traditional internship roles. The School has developed an on-campus internship programme for students with an emphasis on technical skills and certifications, professional skills (transversal skills) and career planning, as well project team work.		
Are work/practice placements appropriate and fit for purpose, having regard to the requirements of professional, regulatory, and associative bodies where applicable, in the context of student achievement of Learning outcomes and in the overall student experience?	Yes ✓	No ☐

Comment: The panel recommends that a Learning Agreement/Contract should be put in place for students going on work placement (see Recommendation 1).		
If applicable, have the relevant Blended Learning Checklists (i.e. Learning Experience Context & Programme Context) been fully completed and submitted to the Panel?	Yes ☐	No ☐
Comment:		
Is the required programme and module information provided in the correct format?	Yes ✓	No ☐
Comment: The programme descriptors and book of modules were downloaded from the PMC and were provided to the panel.		

Learning, Teaching & Assessment		
Is there an effective student-centred learning and teaching strategy that aligns with the University's strategies and guidelines in this regard?	Yes ✓	No ☐
Comment: This has been previously highlighted in the report.

The panel recommends conducting ongoing reviews of assessments including Assessment for Learning and Assessment as Learning. It also recommends ongoing reviews of workload balancing for both students and staff (see Recommendation 9). | | |
Does the assessment strategy provide an appropriate mix of assessment types that will enable students to demonstrate that they have met the module and programme learning outcomes?	Yes ✓	No ☐
Comment:		
Do the learning outcomes and assessment strategy ensure that academic integrity can be maintained and attempted breaches of academic integrity are minimised/easily detected?	Yes ✓	No ☐
Comment: A culture of academic integrity, independence and high ethical standards is promoted throughout the programme and forms part of the Learning Outcomes. An Epigeum training module on Academic Integrity, specifically designed for first-year students, is available across all TU Dublin Virtual Learning Environment (VLE) platforms.		
Is there a comprehensive mapping of assessment methods and module learning outcomes and between module learning outcomes and programme learning outcomes?	Yes ✓	No ☐
Comment:		
Are there opportunities in all modules to provide students with timely and constructive feedback on their learning and development?	Yes ✓	No ☐
Comment: Timely feedback is provided on all assessments to enable students to identify areas of satisfactory performance and to clearly understand aspects requiring further development. Students can expect to receive marked assignments with comprehensive feedback within a two-week timeframe. The majority of personalised feedback is delivered through the Virtual Learning Environment (VLE), where lecturers provide comments, assign grades, and offer detailed evaluations accessible to		

students online. Additionally, general feedback is communicated during scheduled class sessions to address common areas for improvement and reinforce key learning objectives

Do the teaching and assessment methods consider the diversity of the student cohort?	Yes ✓	No ☐

Comment:
The School has demonstrated a commitment to fostering a diverse and inclusive learning environment. The programmes align with TU Dublin's commitment to Equality, Diversity, and Inclusion (EDI) including Universal Design for Learning principles in curriculum design, Support services tailored to diverse student needs, such as mentorship programmes and mental health support.

Student Supports & Learning Environment		
Are there sufficient and appropriate resources (e.g. human, financial and physical) to support the proposed programme aims and objectives, to deliver the programme as specified?	Yes ✓	No ☐

Comment:
The panel recommends that the School continue to seek additional space for comfort and accessibility and in order to accommodate expanding student numbers and facilitate timetabling.

Are there sufficient staff that are appropriately qualified and capable to support the programme delivery?	Yes ✓	No ☐

Comment:
The staff are highly qualified and committed with extensive expertise in specialist areas.

Are there appropriate arrangements in place to support the student experience and to monitor student performance?	Yes ✓	No ☐

Comment:
The Annual Programme Enhancement Report initiates the quality enhancement process by providing a platform for the Programme Coordinator to consolidate feedback from both staff and students regarding the programme's quality and student learning experience. This report, populated with relevant student data, serves as a comprehensive summary of views and suggestions, identifying actionable steps to maintain or improve programme quality. The Discipline Programmes Board utilizes these reports to assess programme quality and develop a Discipline Quality Enhancement Plan. This plan, submitted to the Faculty Programmes Board, contributes to the creation of the annual Faculty Quality Enhancement Plan, which further informs the University Quality Enhancement Plan. This structured approach ensures alignment and continuity in enhancing programme quality at various levels within the institution.

Are the access, transfer and progression arrangements including RPL clearly defined and appropriate, and aligned to TU Dublin policy/strategy in this regard?	Yes ✓	No ☐

Comment:

Do the student supports and learning environment cater for equality, diversity and inclusivity of students?	Yes ✓	No ☐

Comment:
The school has demonstrated commitment to accessible, inclusive, and flexible recruitment practices, ensuring a diverse and well-supported student body. A range of support services are available to ensure all students can thrive academically and professionally. The curriculum follows the university policy on Universal Design for Learning.

Is the relevant programme information clearly communicated to the students to ensure they are informed, guided and cared for?	Yes ✓	No ☐

Comment:
Student Handbooks are provided. Year tutors contribute significantly to enhancing the overall student experience and academic success within the programmes. Their duties may include communicating with students regarding programme delivery, progression, and pastoral issues, collaborating with student support services to identify and provide necessary support to students in need, advising students on academic matters outlined in the Student Handbook, facilitating holistic support services considering academic, personal, and university experience-related issues, working with the Students Union to facilitate the election of Class Representatives, maintaining records of formal meetings with students, and conducting assessments of individual and group support needs through meetings with students.

Since 2024-25 the Faculty has established a computing learning support centre funded by HEA retention funding which includes a centre manager and a student engagement resource. This centre has focused on providing drop-in sessions, one-to-one sessions and pastoral support.

Collaborative Provision (if applicable)		
Are the roles and responsibilities of each partner clearly defined?	Yes ☐	No ☐
Comment:		
In the case of Joint or Multiple Awards, has due diligence on the capacity of the partner institution to meet the QA/QE requirements for the programme been undertaken?	Yes ☐	No ☐
Comment:		

Pre-conditions Note
The panel set out some pre-conditions (see below) to be met by the School before it could make an informed decision on the outcome of the review, due to the fact that the panel recommended a different approach to the one originally proposed by the School (i.e. it was agreed that this review will not replace the direct entry programmes which will continue to be offered in 2025/26). To this end, the panel requested the following information:

1. School to provide new versions of TU099, TU098, TU862 & TU865 with the same structure as the newly proposed streams to ensure that all students are in same curriculum.
2. Programme Learning Outcomes need to be revised and streamlined.
3. Documentation required for add-ons, including Programme Learning Outcomes, and 'Add-on' to be included in the titles.
4. Clarity on the title and presentation of awards for the CAO and transcripts.

The School satisfactorily met these conditions.

Section F	Overall Recommendation of the Panel	
1.	**Recommend continuing approval of programme as submitted, without amendment**	☐
2.	**Recommend continuing approval of programme, subject to minor amendments/editorial changes to be completed as soon as possible and with recommendations for consideration.** **Note:** recommendations are attached where it is considered that the programme would benefit from particular changes, or from a review of certain aspects of the programme over a period of time, with changes made if required. While recommendations are advisory in nature, there is an expectation that all recommendations are responded to appropriately and acted upon as appropriate.	☐
3.	**Recommend continuing approval of programme subject to the fulfilment of conditions. Recommendations for consideration may also be attached.** **Note:** conditions are attached where it is agreed that changes must be made to the programme / programme documentation prior to the commencement of the programme. Conditions must be set where issues are identified that relate directly to academic standards or to University regulations or procedures. It should be clear what is required in order to meet the conditions. A new programme cannot go forward to Faculty Board for consideration unless a response to the Review Report is submitted with revised programme documentation.	☒
4.	**Do not recommend continuing approval of programme.**	☐

Areas for commendation	
1.	The School demonstrated an impressive and meaningful engagement with the review process.
2.	Exemplary alignment with the university's Education Model (UEM). The redesign and enhancement of the curriculum, which includes space for UEM modules, offers flexible pathways and optimises student choice.
3.	Considered moderation process for the Final Year Project.
4.	Impressive alignment with the university's strategic objectives including EDI and UDL.
5.	Considered approach to incorporating Artificial Intelligence into the curriculum.
6.	Impressive student and graduate feedback.

	Conditions of Approval	
	1.	The entry requirements must reflect the programmes currently advertised on the CAO. The school must put in place supports for L6 students co-taught with L7/L8 with different entry requirements, and should consider aligning the entry requirements across all programmes and notify the CAO, etc.
		Response: The School has updated entry requirements to reflect this condition. Response: The School is concerned with retention generally and is working with the new computing learning centre service and the faculty transitions

coordinator to improve retention. The school will place a special focus on supporting level 6 students during next academic year.

Response: The school plan envisages taking the Higher Certificate off the CAO entry route and replacing this with a different, apprentice/ earn and learn model of direct entry in the medium term.

	Recommendations
1.	Consider devising a Learning Agreement/Contract between the university, student and company involved in work placement that will outline the learning objectives and strategies, tasks, timelines etc.
	Response: To a certain extent this requirement is satisfied through the experiential learning process since, as part of the Experiential Learning (Work Placement) process, employers are required to submit a detailed job specification for these paid placements outlining the duties and responsibilities of the role. The Work Placement Coordinator reviews this to ensure it aligns with the learning outcomes of the Experiential Learning module ensuring its suitability for the Computing programmes. Approved opportunities are then publicised with the student group. This process has served the School well and reflects standard practice within the faculty and is widely adopted across the university sector, particularly in engineering, computing, and business disciplines. The School will consider the panel's advice and will conduct a review of sample learning agreements with a view to further enhancing the work placement process.
2.	Consider removing the Database or Web User Experience element from the Web User Experience and Database Design module in Year 1 and instead include integration with APIs (i.e. introduce API base knowledge/fundamentals in Year 1).
	Response: This module was devised by the lecturing team as a clear response to a number of challenges, including that of (i) students not observing connections between different modules (ii) too many individual modules leading to overassessment and (iii) excess summative feedback in semester 1 leading to excess drop out. Thematically, the module is focused on front end challenges of allowing users to access information in a modern style through a web interface. The feedback on using APIs rather than building from scratch has been taken on board and is a welcome addition.

		The programme team is mindful of the challenges and will monitor implementation of this module closely.
3.		Consider reviewing the content of the Year 1 Infrastructure (Computer Architecture, OS and Network Fundamentals) module. Concern that Computer Architecture, OS and Networking Fundamentals are typically distinct subject areas, which may negatively impact the student workload and experience.
		Response: This module is another module where the lecturing team has adopted an integrated approach to delivering what is essentially a foundational hardware/ comms module. The school has delivered a similar module for over 10 years as part of its Higher Diploma / graduate conversion programme and this module works well. For its implementation in Year 1 the material has been adjusted to match Year 1 students expectations as well as a full academic year has been allowed to allow students develop their knowledge in a well paced confidence building manner.
4.		Consider incorporating the theory and practical application of testing in modules such as Software Development and not just in the Year 2 Project to better equip and prepare students for industry.
		Response: The school has asked each software module to implement in practice some appropriate automated testing exercises into its teaching to reinforce the importance of testing. The need to include test is also being emphasised in non-software modules. The Year 1 Software Development module has been modified to include coverage of a test-driven development approach to development and testing and debugging. The Year 2 Object Oriented Software Development module has been modified to include an explicit testing learning outcome and testing techniques have been added to the indictive syllabus. The Year 2 Web Development & Technologies modules has been modified to include coverage of API design, restful, front-end, back-end, and security testing techniques. Assessment and Project rubrics have also been updated across the development and project modules to allocate marks appropriately to reflect the depth and rigor applied to testing activities.
5.		Consider introducing more group work across the four years of the curriculum
		Response: The school will undertake to conduct an audit of group work across all four years of its programmes and ensure that there is group work across all four years while ensuring that individual achievement is appropriately recognised and awarded. The School will ask programme

		coordinators in association with programme delivery teams to monitor and manage this.
6.		Consider making Algorithmic Analysis a mandatory module for final year of the Software Development Stream and adding more Ethics content to the Ethics and Data Governance module.
		Response: Algorithmic Analysis module has been made a mandatory module with an adjustment to elective modules in the Software stream of year 4. Explicit mentions to Ethics coverage has been added to several modules.
7.		Give consideration to where transferable skills are embedded in the curriculum as learning outcomes.
		Response: In association with the group work element considered at recommendation 5 the programme coordinators in associations with the programme delivery teams will also review the progression of transferable skills through the programme to ensure students are getting development in transferable skills.
8.		Continue to seek additional space which is essential in order to accommodate expanding and projected student enrolment numbers. Space constraints (e.g. specialist labs, more group spaces etc.) have a knock-on impact on timetabling, recruitment aspirations etc..
		Response: The school has been contending with space constraints for a number of years. This will continue as numbers in daytime across PG courses as well as UG are increasing. The school has been allocated some additional lab space for 2025-26 but will need more space as its enrolment plans move forward.
9.		Conduct ongoing reviews of assessments including Assessment for Learning and Assessment as Learning and reviews of workload balancing for both students and staff (see Recommendation 9).
		Response: The school appreciates this valuable feedback. Since receiving this feedback verbally from the review panel, the school has tasked the programme review teams to review the assessment approaches and load across each year. Each year group has been asked to consider the difference between assessment for learning and assessment of learning and has made adjustments on this basis. The first iteration of this will be completed shortly and applied to the proposed programmes. It is proposed to keep this under review through course chair/ programme board management.
10.		Utilise the University's QA evaluation processes to keep streams viable/under review.
		Response:

	Agreed.

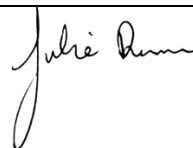| **Other matters to be brought to the attention of Faculty Board and/or Academic Quality Assurance & Enhancement Committee** |
|---|
| It is noted that these programmes like all others within TU Dublin will need to reflect the University Assessment Regulations including award classifications that are approved for implementation in September 2025. |
| The panel wishes to raise the School's need for additional space, especially lab space, on the Tallaght Campus which is vital to accommodate growing and projected student numbers. |

Section G   Approvals

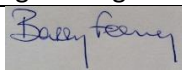| **Review Report**	
This Review Report has been agreed by the Review Panel and is signed on its behalf by the Panel Chair.	
Dr. Julie Dunne (Chair), Head, School of Food Science and Environmental Health.	*Julie Dunne*

School Response	
The response to the conditions and recommendations has been agreed by the School and is signed by the Head of School.	
Head of School: Dr Barry Feeney, Head, School of Enterprise Computing and Digital Transformation	
Signed: *Barry Feeney*	Date: 09/06/2025

Faculty Board	
The report and response have been approved by Faculty Board	
Dean, Faculty of Computing, Digital & Data:	
Signed: *P Pathak*	Date: 10/06/2025

Academic Quality Assurance & Enhancement Committee	
The report and response have been approved by the Academic Quality Assurance & Enhancement Committee	
Head of Academic Affairs:	
Signed:	Date: Click or tap to enter a date.