

Programme Validation Report Joint Bachelor of Science in Computer Science

Version of Report	Author	Date
1.0	Gráinne Hurley	12/12/2024
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Approval	Date	
Programme Proposal approved by Faculty Board	04/05/2023	
Programme Proposal approved by University Programmes Board	16/05/2024	
Programme approved by Faculty Board	06/02/2025	
Programme approved by University Programmes Board	Click or tap to enter a date.	

Section A - Programme Details

This is a joint programme leading to a dual award (the context for the joint programme is highlighted below)

	I		
Title	Bachelor of Science in Computer Science		
NFQ Level	8		
ECTS Credits	240		
Mode of delivery	Part-time □ Full-time ✓		
Duration	Part-time: Full-time: 4 years		
Mode of provision	Face-to-Face ✓ Blended □ Online □		
Classification of award	First Class Honours 70% plus		
	Second Class Honours, First Division (2.1) 60-69%		
	Second Class Honours, Second Division (2.2) 50-59%		
	Pass 40-49%		
Discipline Programmes Board	School of Computer Science		
Faculty Board	Faculty of Computing		
Schools involved in delivery	School of Computer Science, School of		
Delivery location	Beijing, China.		
Collaborative Partner (where applicable)			
Date of Commencement	September 2025		

Context for the joint programme with BUCT

The BSc in Computer Science programme is a collaborative degree between TU Dublin and BUCT. The curriculum combines foundational and specialized computer science courses taught by both institutions. Approximately one-third of the content will be delivered by TU Dublin lecturers on-site in China, while the remaining two-thirds will be taught by BUCT faculty. A tailored grading

conversion model and a block grading system has been developed to ensure consistency between the two academic systems, preparing students for technical roles in the global IT industry.

The School of Computer Science at TU Dublin has cultivated a strong and productive partnership with the College of Information Science & Technology at BUCT over the past decade. This collaboration has included delivering summer schools, supporting BUCT's recruitment activities at high schools across China, developing and teaching computer science and AI modules to BUCT undergraduate students, co-organizing a collaborative conference on the Future of Digital Education held onsite at BUCT in July 2023, engaging in joint research publications, and contributing to the EUfunded project Global Innovations. The launch of this joint programme marks a natural progression in the partnership, as both universities seek to expand opportunities for student learning in a collaborative, global, and forward-thinking environment.

Section B - Awards (Joint Programme leading to dual award)

Section b Awards (Some Hogrammic	cicading to dual award,		
Award Title	Bachelor of Science in Computer Science		
NFQ Level	8		
Award Class	Major		
ECTS Credits	240		
Classification of award	First Class Honours 70% plus		
	Second Class Honours, First Division (2.1) 60-69%		
	Second Class Honours, Second Division (2.2) 50-59%		
	Pass 40-49%		
Award (1) Title			
Exit/Embedded	Exit ☐ Embedded ☐		
NFQ Level	Select Level		
Award Class	Choose an item.		
ECTS Credits			
Classification of award			
Exit Award (2)			
Exit/Embedded	Exit Embedded		
NFQ Level	Select Level		
Award Class	Choose an item.		
ECTS Credits			
Classification of award			

Section C - Programme Derogations (if required)

Derogations from Assessment Regulations/Marks and Standards already approved by University Programmes Board

A combined programme design team was established in late 2023 which finalised agreements on joint Assessment Regulations (Establishing clear guidelines for assessments, grading, and progression). As a joint programme, with both partners recognizing each other's modules and associated assessment regulations, the following exceptions to the TU Dublin Assessment Regulations will apply in order to recognize the different assessment regulations of BUCT: Students will be allowed to carry forward a higher number of credits for progression in Years 1, 2, and 3 than the standard 10 ECTS carry limit in TU Dublin (equivalent to 16% of a 60-credit year). This adjustment accommodates the structural differences in the BUCT programme and is outlined in the *Regulation for Progression to Subsequent Stages of the Course*. Currently,

three of the BUCT originating modules have component thresholds. These are listed in Appendix V. There are no component thresholds on TU Dublin modules. BUCT do not cap repeat module grades. To comply with TU Dublin regulations, results of repeated modules (both BUCT and TU Dublin delivered modules) will be capped for the purposes of TU Dublin grade and award calculations.

calculations.	
Date of University Programmes Board Approval	Click or tap to enter a date.

Section D Validation Process

Please tick the process that was followed:

Validation Panel ✓	AQEC Meeting	AQEC Sub-Group □
Date: 3 & 4 December	Date:	Date:

Panel Members

Name	Role	Affiliation
Patrick Flynn	Chair	Head of Teaching & Learning,
		TU Dublin
Professor David Young	External Panel Member	Executive Dean of Glasgow
		College, UESTC.
Dr Brian Mac Namee	External Panel Member	Associate Professor, School of
		Computer Science, University
		College Dublin
Karen Nolan	Internal Panel Member	Academic Lead, Computing
		Learning Centre, TU Dublin
Fiona Cranley	Internal Panel Member	Head of Transnational
		Education, TU Dublin
Nicole O'Neill	Internal Panel Member	Education Innovation
		Manager, TU Dublin
Dr Gráinne Hurley	Academic Quality Advisor	Quality Framework, Academic
		Affairs, TU Dublin

Agenda Tuesday 3 December 2024

8:00 am	Panel Introductions and discussion (panel only)
8:45 am	Panel meeting with School management and BUCT representatives
11:15 am	Panel discussion
11.45 am	Follow-up meeting with School representatives
12:00 pm	Close

Agenda Wednesday 4 December 2024

Agenaa wear	iesday 4 December 2024
8:00 am	Panel meeting with BUCT teaching team to cover all aspects of the curriculum
	(modules, work placement, organisation of the final year project etc.)
9:00 am	Panel discussion
9:30 am	Panel to meet with TU Dublin teaching team
10:00 am	Panel to meet with programme management team
11:00 am	Panel discussion
11.45 am	Verbal report to School

Section E - Programme Evaluation

Documentation reviewed by panel:

- Joint Bachelor of Science in Computer Science Validation Documentation
- BUCT Undergraduate Handbook (2024 edition)
- BUCT Undergraduate Studies Guide
- BUCT & TU Dublin CVs
- Joint Programme Module Descriptors (Programme & Module Catalogue)
- Joint Programme Descriptor (Programme & Module Catalogue)

Governance & Management			
Is the programme designed in accordance with the University's	Yes ✓	No □	
Strategic Plan, Educational Model and Quality Framework?			
Comment:			
This programme is a result of the collaborative and strategic partnership between TU Dublin's			
School of Computer Science and the College of Information Science and Technology at Beijing			
University of Chemical Technology (BLICT) China and of the ten public	ivorcitios i	n Dailing and	

School of Computer Science and the College of Information Science and Technology at Beijing University of Chemical Technology (BUCT), China, one of the top public universities in Beijing and so aligns with the university's *Strategic Intent 2030*, as evidenced by the School's commitment to fostering and growing global partnerships and providing a transformative, life-enhancing educational experience by enabling students to study abroad. The programme is designed not only to build on this established collaboration but also to serve as a foundation for future developments, including the potential creation of a joint college that would span multiple disciplines.

The programme also embraces the philosophy of the University Education Model's student-centred holistic approach and its inclusive, global and multicultural outlook, which seeks to provide an internationalised curriculum through nurturing strong international partnerships and exchange of students in a technology enhanced learning environment. Whilst ethics and sustainability are embedded in the programme, the panel emphasised the need to make them more explicit in the module content/learning outcomes (See Recommendation 5).

Will the proposed strategies for programme management and quality	Yes ✓	No □
assurance ensure that the programme is well managed and		
continuously enhanced and is in accordance with the University's		
Quality Framework?		

Comment:

Given the joint nature of the programme and the on-site delivery in BUCT, a joint management team will be formed to oversee the running of the programme. Both partners will recognise each other's modules and quality assurance procedures, with relevant policies applied to best fit the arrangement of the joint initiative, while ensuring that TU Dublin can ensure that their awarded programme has sufficiently followed its robust quality assurance processes. In BUCT, this programme is governed by "Regulations on the Management of Undergraduate Student Status of Beijing University of Chemical Technology". TU Dublin School of Computer Science will appoint School academic staff to have oversight of the assessment quality, including grade translation and marks equivalence of BUCT modules for all four years of the programme. This will be done at the end of each semester in line with the joint examination board schedule, thus ensuring that the regulations of both universities are adhered to with

BUCT do not use external examiners. External examiners will be appointed by TU Dublin as per TU Dublin processes. It is proposed that the examiners cover all 4 years of the programme. For external examiners, all examination materials, including assignments and written examinations which must be provided to the external examiners. Samples of BUCT module assessment materials, including digital assignment submissions and examination papers will be translated into English for all

modules for all years of the programme. TU Dublin module assessment materials will already be in English. The bachelor's thesis module report will be provided in English, with the project presentation (viva) also done through English.

TU Dublin will conduct the quality review process.

As BUCT will handle both the Student Disciplinary and Student Complaints Procedures, the panel have made it a condition that TU Dublin must have an awareness or be involved in these processes (see Condition 2).

Awards Standards			
Are the programme aims and learning outcomes clearly written using appropriate terminology? (See TU Dublin Guidelines)	Yes ✓	No □	
Comment:			
Note: BUCT modules are structured differently from those at TU Dublin.	. As BUCT oper	rates outside	
the European context, they do not use ECTS credits, nor do they explicitl	y apply Learnii	ng Outcomes	
or a constructive alignment approach. Consequently, their modules car			
ECTS credits in multiples of five. However, they can be aligned with the	-	iirements for	
TU Dublin degree awards, which was demonstrated through the validation		Г	
Are the programme aims and learning outcomes aligned to the	Yes ✓	No □	
proposed level of the award on the NFQ in accordance with applicable Award Standards?			
Comment:			
Will the curricula, teaching, learning and assessment methods enable	Yes ✓	No □	
students to reach the appropriate standard to qualify for the award(s)?			
Comment:			
The panel commended the balance of theoretical knowledge and practi			
which will enhance learning outcomes and prepare graduates for real-w	orld challenge	es and	
employment opportunities in this rapidly changing field.			
While the penal appreciated that the students generally had a high stan	dard of English	4	
While the panel appreciated that the students generally had a high stan nevertheless it determined that it was imperative to ensure that the sta	_		
maintained across the programme into the future by setting the standard	_		
or equivalent (see Condition 3). In addition, it advised that the program			
incorporate a student oral presentation and feedback sessions, conduct			
promote a good standard and ensure academic integrity (see Condition 4). This could be			
supported by the English Support Team. Furthermore, support for writing technical reports and			
academic writing could be built into the programme at different stages of the programme,			
particularly in the early part of the programme and again at the early sta			
Recommendation 8).			
Was the programme development appropriately informed by internal	Yes □	No ✓	
and external stakeholder input (including industry/practice,			
professional/regulatory bodies, and community organisations)?			
Comment:			
Typically, TU Dublin consults with key internal and external stakeholders		•	
identify the demand for any new programme and to inform its curriculu		_	
programme is responsive to market needs and employability opportunit	_		
However, the process in China is initiated centrally by the Ministry of Ed	lucation (MOF) which	

issues application notices and requirements twice a year, in March and September, for Chinese-Foreign Cooperation in Education (CCE) programmes. These centrally guided announcements outline priority areas for new programme development. Chinese universities, such as BUCT, then identify suitable international partner institutions with whom they wish to collaborate on these funding opportunities. BUCT determines which opportunities to pursue based on a range of factors, including the university's international development plan, the development needs of specific disciplines, societal needs, and graduate employment trends. Once a decision is made, the programme documentation is prepared and submitted to the MOE for approval. For this specific collaboration, discussions between TU Dublin and BUCT began in June 2023. TU Dublin followed its established programme proposal protocol, ensuring the new programme aligned with university guidelines and standards for academic excellence and operational feasibility. The panel felt that it would be advantageous to set up an Industry Advisory Panel which could act as an advisor to the Programme Team and contribute to the curriculum in order to keep the programme current with industry trends and advancements (see Recommendation 3) Has the programme been benchmarked against similar programmes No ✓ nationally and internationally? Comment: As previously noted, the priority areas for new programme development in China is initiated centrally by the Ministry of Education (MOE). A comparison was made with the B.Sc. in Event Management, a joint programme between TU Dublin and Hainan University, in which students complete their first two years at Hainan University, focusing on foundational studies and language skills, followed by two years of advanced event management courses taught by TU Dublin faculty. The programme includes a six-month work placement to enhance practical learning, preparing graduates for careers in event planning and Did the programme development take account of relevant external Yes ✓ No □ discipline benchmarks and Professional Statutory and Regulatory Body requirements Comment: The programme design was based on the AI Stream of the existing BSc in Computer Science which has taken into account the discipline benchmarks and is approved by the British Computer Society.

Programme Design		
Is the programme design informed by current development in the	Yes ✓	No □
discipline and associated subject areas, having taken into consideration	. 55	140 🗅
current trends, stakeholder feedback and market analysis?		
Comment:		
This programme addresses the growing demand for computer science s	kills, in particu	lar Artificial
Intelligence (AI) as a core area within the computing sector, which is not	-	
but also creating new career opportunities across industry. Computer so		
the infrastructure underpinning critical systems in communications, fina		
transportation, and numerous other sectors, both in China and across the	_	
China, where rapid technological advancements are driving innovation,		
skilled professionals continues to grow. All is at the forefront of this grow		_
widely recognized as one of the most significant barriers to AI adoption capabilities expand rapidly, businesses in China and globally are shifting	•	
decision-making to leveraging advanced AI solutions for competitive ad		ven
decision-making to leveraging advanced Ai solutions for competitive adv	vantage.	
Graduates from this programme will be well-equipped to unlock excitin	g career oppo	rtunities and
meet the demands of the competitive Chinese and international IT ma		
technical expertise required to thrive in a range of industries, from tech	-	-
multinational corporations and government agencies. These roles will		_
and theoretical knowledge in data and computing, along with the abilit		-
intelligent systems that enhance products, services, and operational effi	iciency.	
As highlighted previously, the panel felt it would be advantageous to		
Panel in order to benefit from industry expertise which will enable the p	rogramme to	adapt, thrive
and remain relevant in a rapidly changing industry.	Vos. «	N. D
Will there be opportunities for students to input into curriculum design decisions in the future?	Yes ✓	No □
Comment:		
There will be regular opportunities for students to give feedback into t	he curriculum	design. This
feedback will be managed directly by BUCT and provided to the joint T		_
team and TU Dublin discipline programme board.		7 -0 -
Is there a mechanism to ensure the input of external stakeholders in the	Yes □	No ✓
ongoing development of the programme?		
Comment:		
Currently there is no formal mechanism in place and as result, and as		
the panel strongly recommends that going forward an Industry A	•	
established in order to provide expert guidance and to ensure that acti	vities are infor	med by best
practice and remain relevant to staff, students and society.	Vac. /	
Is the programme curriculum well-structured with a logical progression of learning and development across the modules and stages?	Yes ✓	No □
Comment:		
In all cases, the programme modules that are being offered are already	validated in ei	ther TU
Dublin or BUCT. Overall, the panel felt that the curriculum was well-stru		
progression, however, it requested that an exercise be conducted to en		_
duplication of the syllabus across the two universities (see Condition 6).		
		-
noted that the award classification is devised from the year three and ye		
there are more ECTs in year three than year four. In the current system		-
means that the student will have accumulated approximately 63% of the	eir marks by th	ne end of the

third year and only 37% for the final year. A weighting of say 35% to year	r three and 65	5% to year			
four would mean that the marks would be accumulated roughly equally	between the	two years			
(with a slight bias to year four) – see Recommendation 4. The panel adv	ised that the b	alance of			
workload for students should be reviewed using the assessment schedu					
evenly distributed across the semester (see Recommendation 7).					
Are there appropriate opportunities for students to undertake work-	Yes ✓	Na 🗆			
based learning, through work placements or work-based projects or	165 *	No □			
assignments?					
Comment:					
Commence					
At the end of Year 2, students will have the opportunity to undertake a	month-long in	dustry			
placement in a relevant industrial setting. In the final year, students will	_	•			
thesis module, serving as a capstone project to consolidate and apply th					
As it will be the responsibility of the students to secure their own work					
support from BUCT, the panel emphasised the need to ensure that there	•	•			
mechanism and feedback process for the work-based learning. Also, the	•				
for clarity in the provision of alternatives to work-based learning, if it is	not viable for a	any student.			
If applicable, have the relevant Blended Learning Checklists (i.e.	Yes □	No □			
Learning Experience Context & Programme Context) been fully					
completed and submitted to the Panel?					
Comment:					
Is the required programme and module information provided in the	Yes ✓	No 🗆			
correct format?	165 *	No □			
Comment:					
Comments					
The programme and module information have been entered in the	Programme	and Module			
Catalogue. However, the panel requested that typos and inconsisten	_				
provided be fixed (see Condition 7.)					
Learning, Teaching & Assessment					
Is there an effective student-centred teaching and learning strategy	Yes ✓	No □			
that aligns with the University's strategies and Education Model?					
Comment:					
The learner-centred teaching and learning approach with its diversity of					
Practice and Career Development chimes with the UEM's vision of Peop		•			
capable, life-long learners, Planet (global citizens) and Partnership (proc	lucing collabor	rative, real-			
world problem solvers).					
Does the assessment strategy provide an appropriate mix of	Yes ✓	No □			
assessment types that will enable students to demonstrate that they					
have met the module and programme learning outcomes?					
Comment:					
The panel was impressed with the balance of theoretical knowledge and	nractical ann	lication in			
the programme which will enhance learning outcomes. However, the particular knowledge and					
of sustainability and ethics need to be made more explicit in the module					
content for both the TU Dublin and BUCT.					

academic integrity can be maintained and attempted breaches of academic integrity are minimised/easily detected? Comment:
Comment:
The bachelor's thesis will involve joint assessment by BUCT and TU Dublin staff to ensure
consistency and fairness. The thesis report will be submitted in both Chinese and English. The <i>viva</i>
voce examination will be conducted in English, reinforcing the programme's commitment to
bilingual competency. These measures focus on ensuring the academic integrity of the joint
programme, providing a strong foundation for students to succeed in both Chinese and
international academic and professional contexts. By integrating dual-language instruction,
continuous oversight, and language development opportunities, the programme fosters a global
learning experience.
The constitution of the fall of the construction of the terror of the te
The panel has advised that the programme team also need to incorporate a student oral
presentation and feedback sessions during the final year project, conducted through English, to
promote a good standard and ensure academic integrity (see Condition 4).
The panel recommended that TU Dublin should have active involvement in the final year thesis.
This can be done at the project proposal, mid-term and end stage of the project and it could be
organised as an oral presentation by the students with staff verbal feedback in English (see
Recommendation 9).
Is there a comprehensive mapping of assessment methods and module Yes ✓ No □
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Is there a comprehensive mapping of assessment methods and module learning outcomes and between module learning outcomes and programme learning outcomes? Comment: The panel requested a clearer mapping of Programme Learning Outcomes to Module Learning Outcomes (e.g. ethics and sustainability) and the thought processes behind the exercise. Are there opportunities in all modules to provide students with timely and constructive feedback on their learning and development? Comment: In the programme, numerous feedback strategies are designed for both group and individual work so the feedback should be provided timely, with clarity and consistency with appropriate guidelines for future action. For example: Written feedback can be requested for all assessments In-class feedback provides common feedback to the entire class Use of grading rubric, as provided through the VLE The student feedback at module level will be communicated directly by the lecturers directly in the classroom and via the Virtual Learning Environment. Student representation will be managed by BUCT, whereby the student groups is assigned a class lead, as a communication point. Do the teaching and assessment methods consider the diversity of the student cohort? Comment: The panel was satisfied overall that the teaching and assessment methods took into account the

Student Supports & Learning Environment						
Are there sufficient and appropriate resources (e.g. human, financial	Yes ✓	No □				
and physical) to support the proposed programme aims and objectives,						
to deliver the programme as specified?						
Comment:						
The panel was satisfied overall that there are sufficient and appropriate						
proposed programme aims and objectives. The panel has requested a vi						
Condition 1). It raised the importance of considering staff supports also						
recommended that a Staff Handbook be developed for TU Dublin staff v	_	n addition to				
the current 'buddy' system and other assistance that will be made available to the current 'buddy' system and other assistance that will be made available.						
Are there sufficient staff that are appropriately qualified and capable to	Yes ✓	No □				
support the programme delivery, from both context and pedagogy						
perspectives? Comment:						
The panel was satisfied that Both TU Dublin and BUCT have highly	gualified and	evnerienced				
teaching staff, with extensive expertise in delivering state-of-the		-				
programmes, which will ensure a high standard of education for						
programme.		,				
Are there appropriate arrangements in place to support the student	Yes ✓	No □				
experience and to monitor student performance?						
Comment:						
The panel recommended that TU Dublin assign an academic for the esti	mated 60 stud	ents who				
will be coming to Dublin.						
Are the access, transfer and progression arrangements clearly defined	Yes ✓	No □				
and appropriate, and aligned to TU Dublin policy/strategy in this						
regard?						
Comment:						
There is no advanced entry to this programme and no TU Dublin av						
Students who do not meet the eligibility requirements for the TU Dublin	i award may si	ill be eligible				
for the BUCT award if they meet the requirements for that award. Do the student supports and learning environment cater for equality,	Yes 🗆	N- □				
diversity and inclusivity of students?	res 🗆	No □				
Comment:						
Student supports and learning environment are in line with Chinese	provision and	provided by				
BUCT.	provision and	provided by				
Is the relevant programme information clearly communicated to the	Yes ✓	No □				
students to ensure they are informed, guided and cared for?						
Comment:						
Overall, the panel were satisfied that the relevant programme informati	ion clearly con	nmunicated				
to the students to ensure they are informed, guided and cared for. However, it determined that						
the student handbook needs to include more programme specific information and sample						
timetable and assessment schedules (see Condition 5). It has also advised that it would be						
beneficial to the students for a glossary of technical terms to be included in the handbook (see						
Recommendation 6.).	a circ manas	,00k (500				
Has the Checklist for First Year Student Success (where applicable) been	V □	N- □				
fully completed and submitted to the Panel?	Yes □	No □				
Comment:	<u> </u>					
Comment.						

Collaborative Provision (if applicable)						
Are the roles and responsibilities of each partner clearly defined?	Yes ✓	No □				
Comment:						
The roles and responsibilities of each partner was clearly explained but the panel made it a						
condition that TU Dublin be involved or have oversight of the student complaints/ disciplinary						
processes (see Condition 2) and recommended that TU Dublin staff should have regular						
involvement in the final year thesis.						
In the case of Joint or Multiple Awards, has due diligence on capacity of	Yes ✓	No □				
partner institution meeting the QA-QE requirements for the programme						
been undertaken?						

Comment:

There is already an established 10-year relationship with BUCT, involving collaboration and student exchanges. In June 2023, TU Dublin's School of Computer Science management team toured the teaching facilities at BUCT's North Campus as part of the Joint Conference on the Future of Digital Education. The facilities at BUCT are equipped with cutting-edge technologies, including sensor-based systems that enable real-time monitoring of attendance and engagement in the classroom. These technologies also generate automated metrics to support teaching and learning processes, enhancing motivation, attendance, and ultimately student retention. The advanced infrastructure at BUCT provides an excellent opportunity for TU Dublin staff teaching at BUCT to adopt and integrate these innovative practices into their teaching. This exchange of methodologies and tools will further enrich the joint programme and support the delivery of a dynamic and forward-looking educational experience.

The panel requested a due diligence report on BUCT's technical facilities: number of computers, labs., software and accommodation, along with a video of the facilities, to be provided (see Condition 1).

Section F - Overall Recommendation

1.	Recommend approval of programme as submitted, without amendment	
2.	Recommend 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 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/approval unless a response to the Validation Report is submitted with revised programme documentation and the Academic Quality Enhancement Committee is satisfied that all conditions are met.	

4. Do not recommend approval of programme.	
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Areas for commendation The co-operation between the two Schools is exemplary and the development of this programme has been carefully thought through and based on a long history of working together. The balance of theoretical knowledge and practical application is clearly thought out and appropriate for this programme that is in a rapidly changing field. The inclusion of work-based learning is welcomed and leads to meaningful engagement with industry.

Conditions of Approval

1. Provide due diligence on technical facilities: number of computers, labs., software and accommodation along with video of facilities.

Response:

The North Campus has two academic buildings. The first building has 128 classrooms, of which 24 are 195-person large step classrooms, 24 are 144-person small step classrooms, and 8 are 54-person smart classrooms. The second building has 108 classrooms, including 2 super-large step classrooms, 7 large step classrooms and 14 smart classrooms.

The North Campus of BUCT, which was built in 2018, contains 236 teaching classrooms. The teaching spaces are across two academic buildings: The first building has 128 classrooms, of which 24 are 195-person large step classrooms, 24 are 144-person small step classrooms, and 8 are 54-person smart classrooms. The second building has 108 classrooms, including 2 super-large step classrooms, 7 large step classrooms and 14 smart classrooms.

Each classroom is equipped with WIFI (including EDUROAM), state of the art projector facilities, automated engagement monitoring facilities, and multi-media facilities for video/ audio and online delivery. TU Dublin staff from both Computer Science and Engineering have used these facilities in teaching Summer Schools over the last 5 years (except for 2 years during Covid).

For lab facilities, there are 44 labs in total of which 13 are dedicated computer labs. These have a total seating capacity of 1,100 students, covering 2,300 square metres, and able to accommodate 33 classes at the same time. Each is equipped with workstations for access to MOOC and teaching system. The list of software available is attached as an appendix in the updated programme document, and as an attachment to this document. Additional videos of general facilities is provided.

BUCT have twelve technical staff dedicated to managing the laboratory infrastructure, which contains approximately 1,700 computers in total. The computers are currently available in two models.

Model DELL Precision 3660, detailed configuration is as follows: CPU: Intel Core i7-13700; Memory: 32GB; Hard Drive: 512G SSD; 2TB HDD Graphics: Nvidia RTX4060 8G

Model DEL LPrecision 3460SFF, detailed configuration is as follows: CPU: Intel Core i7-13700 Memory: 16GB DDR5 Hard Drive: 256G SSD; 2TB HDD Graphics: Nvidia T400 4GB This information has been included an appendix in the programme document.

The attachment "Condition 1 info" contains:

- (1) A list of lab software
- (2) Visuals of the facilities are attached with the panel response in the "Facilities" attachment, divided as follows:
- (2) Video of BUCT's library facilities and an admissions welcome video showing the campus.
- (3) BUCT Campus facility images
- (4) Teaching spaces images
- 2. BUCT deals with student complaints/disciplinary processes. TU Dublin needs to have an awareness or be involved in this process.

Response:

BUCT will act as the primary point of contact for addressing student complaints and disciplinary matters. Any complaints or disciplinary actions will be documented by the BUCT Programme Manager and recorded in a shared system accessible to both institutions. This shared system ensures that TU Dublin's Programme Coordinator has real-time visibility of any issues and maintains an active role in oversight.

To enhance collaboration and transparency, TU Dublin will be informed of all complaints or disciplinary actions relevant to the joint programme. For complaints involving TU Dublin lecturers, modules, or services, the relevant staff and programme team will be notified promptly. This proactive communication will allow TU Dublin to actively engage in resolving these issues and ensure a coordinated approach to maintaining high standards.

Transparency and record-keeping will be prioritized, with all complaints and actions logged in a centralized, secure system accessible to designated personnel from both institutions. This system will support efficient communication and tracking of resolutions. Complaints and disciplinary issues will also be reviewed at the tri-annual joint exam board meetings. These discussions will serve to monitor trends, address unresolved issues, and refine policies as necessary. TU Dublin's role will extend beyond monitoring, with active participation in addressing any incidents directly involving its staff or modules. This includes providing input on resolutions and ensuring alignment with TU Dublin's academic and ethical standards.

To ensure that students feel supported, clear guidance on how to raise complaints and seek resolutions will be included in the updated student handbook. This will outline the role of both BUCT and TU Dublin in managing such processes. This collaborative approach, now outlined in the programme document under "Quality Assurance" (Table 5), reinforces the commitment of both institutions to fostering a supportive and transparent learning environment.

3. Ensure that the standard of English is maintained across the programme and into the future by setting the exit standard to an IELTS score of 6.0 or equivalent.

Response:

We acknowledge the importance of English language for the students. To promote an agreed exit standard, we will introduce a requirement for students to reach an IELTS 6.0 standard or equivalent (College English Test CET-6). We propose that this test is taken at or by the following stages:

- In year 4, during Semester 1, in parallel with the first phase of the Bachelor's Thesis; This will allow students an opportunity to re-take the test if needed, whilst also improving their English as part of their project assessment;
- For those students who opt to move to the TU856 BSc Computer Science at TU
 Dublin in year 3 or year 4, the students must reach the IELTS 6.0 or equivalent
 prior to being accepted in TU Dublin.
- The test will not carry credits but must be taken as a precursor to completing year 4 or to transferring to TU Dublin. The student will resit the test in the event that they do not meet the required standard.

This measure has been added to the programme document under 16.5 Language Strategy: English Standard at Exit.

The programme team should build in further student oral presentations and feedback sessions to the final year project conducted in English to promote a good standard and ensure academic integrity. This could be supported by the English Support Team.

Response:

The final year project will now include an additional two presentation/feedback points. The first of these will be at the project proposal / definition stage. Each student will prepare a recorded presentation in English which will be reviewed and critiqued by a TU Dublin assigned project monitor during the project proposal stage. The purpose of this stage will be for the student to articulate their project purpose, approach and plan. It will also give the student practice both in presenting in English and in addressing the project topic and associated specialist vocabulary through English. The second presentation will be at the mid project review stage, completed in English with feedback including the TU Dublin project monitor. As per TU Dublin's current final year project arrangement, the rubric will include marks for the final year project mid review. The BUCT English Support Team is available throughout the 4 years of the degree providing support for English Learning by providing 4 non-credited English language courses in year 1. Additional classes can be provided in year 2 if required. Student performance in the first semester will be monitored in the communication module to determine if additional language support is required.

The above has been included under Section 16.2 Bachelors Thesis Module in the programme document.

5. The student handbook needs to include more programme specific information and include a sample timetable and sample assessment schedules.

Response:

While BUCT provides a university-wide standard handbook covering general services and programme information, a dedicated student handbook will be created specifically for this Joint Programme. This handbook will include comprehensive details tailored to the unique requirements of the collaboration. It will provide information on TU Dublin, the structure and objectives of the Joint Programme, and specific rules for achieving a TU Dublin award. Key inclusions will be:

- Requirements such as achieving IELTS Level 6.0
- Joint examination boards and grade translation rules
- Assessment schedules and weightings
- Complaints procedures
- Final year project requirements, including oral presentations
- Any additional policies or processes unique to this programme

The student handbook has been updated to include programme-specific content, such as details of the modules, semester groupings, and distinctions between TU Dublin- and BUCT-taught modules. It also incorporates a sample continuous assessment (CA) schedule and outlines the assessment weightings.

A sample timetable from BUCT has been included in the student handbook and will be updated when the actual schedule is put in place.

Once finalized, the handbook will serve as a valuable resource, supporting students in navigating the Joint Programme effectively and understanding the requirements to achieve their academic goals.

See BUCT Undergraduate Handbook Updated.doc

6. Clarify the detail of the content and modules to ensure that there is no duplication of the syllabus across the two Universities. E.g. Machine Learning (CMPU 4011) & Machine Learning Practice (EEE37004L).

Response:

The module *Machine Learning (CMPU 4011)* will be delivered by TU Dublin in English, while *Machine Learning Practice (EEE37004L)* will be delivered by BUCT in Chinese. Although there is some overlap in the coverage of machine learning algorithms and concepts, this duplication is intentional and serves several important purposes:

1. Bilingual Mastery:

Machine Learning is a fundamental subject for the programme, and it is essential for students to develop a strong understanding of the core concepts in both English and Chinese. This approach helps students acquire critical technology-related vocabulary in both languages, preparing them for future academic and professional environments.

2. Differentiated Focus:

- a. Machine Learning Practice (EEE37004L), delivered by BUCT, is 100% continuous assessment and emphasizes practical, hands-on implementation. Students build machine learning pipelines step by step, gaining experience in applying algorithms and metrics to solve real-world problems.
- b. *Machine Learning (CMPU 4011)*, delivered by TU Dublin, focuses on theoretical understanding and includes a final written exam, contributing 70% of the module grade. This exam ensures that students can articulate and apply theoretical concepts under exam conditions.

3. Integrated Delivery:

Both modules will be delivered in the same semester, allowing for coordination between TU Dublin and BUCT lecturers. This collaboration will ensure aligned emphasis on concepts, synchronized progress tracking, and complementary assessments to maximize student learning outcomes.

By combining the theoretical rigor of CMPU 4011 with the practical application focus of EEE37004L, the programme ensures a comprehensive and multi-faceted learning experience, without unnecessary duplication. This coordinated approach strengthens the overall academic quality and prepares students effectively for advanced roles in machine learning.

7. Tidy up the typos in the documentation provided. For example, the differing descriptions of the number of ECTs in each year.

Response:

Completed.

8. There should be a regular involvement of the TU Dublin in the final year thesis. This can be done at the project proposal, mid-term and end stage of the project and it could be organised as an oral presentation by the students in English with staff verbal feedback in English.

Response:

TU Dublin will assign a Final Year Project (FYP) Monitor as part of the joint programme team to ensure consistent engagement with the final year thesis process. The FYP Monitor will serve as the primary liaison between TU Dublin and BUCT for project-related activities. Their responsibilities will include:

- 1. **Project Proposal Review:** Collaborate with BUCT faculty to review and approve the list of project proposals, ensuring topics align with the academic and industry standards of the joint programme.
- Coordination of TU Dublin Participation: Organize and facilitate TU Dublin staff
 involvement in key stages of the project process, including proposal review, midterm progress, and final presentations.
 - 3. **Student Presentations:** Oversee three formal presentations by each BUCT student during the year (proposal, mid-term, and final), conducted in English. Students will receive verbal feedback from the TU Dublin FYP Monitor, with additional contributions from TU Dublin staff where appropriate.
 - 4. **Final Viva Input:** Attend final viva presentations, providing critical input into the preliminary project grading. This process will align with the current TU Dublin model, ensuring consistency in evaluation standards.

The final project grading list will be reviewed collaboratively by the TU Dublin FYP Monitor and the joint programme team to ensure fairness and adherence to agreed academic standards. This process will enhance the quality of the final year project experience for students while fostering closer integration between TU Dublin and BUCT academic practices. This is an existing and mature process within all TU Dublin Computer Science programmes.

Recommendations

1. Staff handbook could be developed for the TU Dublin staff going to BUCT in addition to the current 'buddy' system and the current available information.

TU Dublin, in collaboration with BUCT, will develop a comprehensive staff handbook tailored to support TU Dublin staff members travelling to BUCT. This handbook will address functional, operational, and cultural aspects to ensure staff have the necessary resources and knowledge to navigate their roles effectively. It will include clear lines of support for resolving any issues that may arise during their time at BUCT.

The content of the handbook will be informed by the experiences of TU Dublin staff who have previously visited and worked at BUCT. To maintain its relevance, the document will be reviewed and updated each semester in consultation with the programme coordinator, the TU Dublin Operations lead, and the BUCT School of International Education. Pre-travel inductions will also be organized at least one month prior to departure, and staff will have access to support for learning Chinese, enhancing their preparedness for the cultural and operational environment in Beijing.

This resource will be distributed to staff at least one month before their travel to BUCT. To ensure continuous improvement, the handbook will be updated after each cohort of staff returns, incorporating additional insights and feedback.

The handbook will include the following sections (subject to review and updates):

- **BUCT and TU Dublin Relationship Context:** Background and significance of the partnership.
- **Summary of the Programme:** Overview of the joint programme, including objectives and structure.
- **Student Culture at BUCT:** Insights into the expectations, behaviours, and preferences of students.
- **Staff Culture at BUCT:** Guidance on working with BUCT colleagues and navigating workplace practices.
- **Life and Culture in Beijing:** Practical tips on adapting to life in Beijing, including cultural norms and customs.
- **Communicating with Ireland:** Recommendations on maintaining communication with home offices and colleagues.
- **Transport and Getting Around:** Advice on navigating Beijing's public transport system and other travel tips.
- Paying and Money: Information on managing finances, including currency, payment systems, and budgeting.

This handbook will not only be a valuable resource for visiting TU Dublin staff but will also enhance the collaborative relationship between TU Dublin and BUCT by fostering mutual understanding and smoother operations.

Note: The staff handbook has been referenced in the programme documentation under Section 16.3 TU Dublin Staff Orientation.

2. Assign a TU Dublin academic for the estimated 60 students who will be coming to TU Dublin.

The initial proposal is for all students to complete their award in Beijing, but there is an allowance for students to transfer to TU Dublin Computer Science Degrees under the advance entry process which is an existing standard process within TU Dublin and the

school of Computer Science. Students transferring to TU856 BSc Computer Science in Year 3 or 4 (or to TU Dublin through other future pathways yet to be defined) will require both administrative and academic support. To address this need, TU Dublin will assign a dedicated academic mentor for these students.

The mentor's role will be to provide guidance on academic matters, including module selection, academic expectations, and integration into the TU Dublin learning environment. This support will be particularly critical during the initial weeks of the term as students adapt to new academic and cultural contexts.

Administrative support will be provided through the Faculty International Office to assist with logistical and non-academic matters. Together, the academic mentor and the international support team will ensure a smooth transition for incoming students and help them succeed in their studies at TU Dublin.

3. As the nature of this programme changes rapidly, an Industry Advisory Panel could provide guidance to the Programme Team.

Response:

TU Dublin will establish a dedicated Industry Advisory Panel comprising representatives from leading industry partners in both Ireland and China. This panel will review the goals of the joint programme and provide strategic recommendations to ensure alignment with the evolving needs of industry in both regions.

The panel will meet annually to evaluate the programme's objectives, offer recommendations on curriculum and development opportunities, and address emerging trends. Feedback from these meetings will be communicated to the Programme Management Team for review and implementation, ensuring that the programme remains dynamic, industry-relevant, and effective in preparing graduates for global opportunities.

The award classification is devised from the year three and year four modules. There are more ECTs in year three than year four and the current system without a weighting means that the student will have accumulated approximately 63% of their marks by the end of the third year and only 37% for the final year. A weighting of say 35% to year three and 65% to year four would mean that the marks would be accumulated roughly equally between the two years (with a slight bias to year four).

Response:

This recommendation has now been implemented.

The award calculation is updated in the programme definition on Akari and in the programme document Section 12.1 Assessment of Final Award.

The award is now using weighting of 35% for year 3 and 65% for year 4 grades, where year grades are weighted-by-ECTS average year grades

5. Sustainability and Ethics are embedded in to the programme but should be more explicit in the module learning outcomes and content in both the TU Dublin and BUCT.

Response:

The modules in this programme are existing modules from other programmes in BUCT and TU Dublin. Table 1 and Table 2 highlight the modules that currently explicitly incorporate ethics and sustainability in their specifications. All programmes in TU Dublin are undergoing a School Review this year whereby all modules will be reviewed. Learning outcomes and teaching content will be amended to include ethics and sustainability where relevant.

Module Code Module Name Ye	Content Related to Ethics	Section Mentioned
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CSE14404C	Programming Basics	1	Engineering ethics	Course Objectives
CMPU 1005	Communications	1	Professional and Personal Ethics	Indicative Syllabus
CSE22400T	The Principles of Computer Organization	2	Ethics and responsibility of science and technology	Course Objectives
CSE29301P	Practicum	2	"understand the professional ethics and norms of computer engineers."	Course Objectives
CSE37500C	Database System Principles	3	professional ethics."	Teaching Content
CSE39301P	Project Practice	3	"Abide by the rules and regulations of the internship unit, and perform duties in accordance with the professional ethics of the project. At the same time, in this course, the education of engineering ethics is strengthened, and students' awareness and sense of responsibility of engineering ethics are cultivated. Understand the basic norms."	2 Course Objectives
CSE30A01P	Bachelor's Thesis		engineering in the field of computer engineering, and fulfill responsibilities. "	Course Objectives
Table 1 Mod	ules with ethics	in the	specification	
Module Code	Module Name	Year	Content Related to Ethics	Section Mentioned
			"Listing environmental education as the undergraduate teaching content of non-environmental majors is an important measure to cultivate compound talents and establish the	

Module Code	Module Name	Year	Content Related to Ethics	Section Mentioned
ENV20100T	Fundamentals of Environmental Engineering	4	"Listing environmental education as the undergraduate teaching content of non-environmental majors is an important measure to cultivate compound talents and establish the concept of sustainable development in the professional field. This programme aims to enable students to develop the basic concepts of environmental engineering and the scientific thinking of sustainable development, and to broaden students' professional horizons."	Curriculum Education
EEE37002L	Neural Networks and Deep Learning Experiments		of non-environmental majors is an	Curriculum Education Objectives Teaching Content

"By using CNN networks to detect	
buildings, roads, water bodies, and	
other objects in remote sensing	
images, students can enhance their	
understanding of the application of	
computer vision technology in smart	
cities and sustainable development."	

Table 2 Modules with sustainability in the specification

6. A glossary of terms for the students should be placed in the Student Handbook.

A glossary of terms has been included in the <u>student handbook</u>. These will continue to be updated on a regular basis for each cohort (including cohort 1) to ensure that they offer a complete list for the students.

7. The balance of workload for students can be reviewed using the assessment schedule to ensure that the workload is evenly distributed across the semester.

At TU Dublin, we actively review assessment schedules for each year of every programme at the beginning of the semester to ensure an even distribution of workload across the term. Each lecturer provides their assessment schedules, which are reviewed at the programme level to ensure a balanced and manageable workload for student groups. Revisions are made as necessary to achieve this balance.

For the joint programme, BUCT will share their assessment schedule with the TU Dublin programme lead early in the semester. This will allow TU Dublin staff to review and provide feedback on the workload distribution, ensuring it is reasonable and supports student success. TU Dublin lecturers involved in the joint programme will align their assessment schedules with this process to maintain consistency and balance.

We also recognize that the structure of the academic day in BUCT and Chinese universities generally involves longer working hours compared to Irish universities. This cultural difference will be taken into account when reviewing and providing feedback on the assessment schedule to ensure it reflects both academic rigor and an appropriate workload for students.

8. The development of technical report writing and academic writing skills is crucial for student success, irrespective of language proficiency. Throughout the first two years of the programme, students will engage with several modules that require written reports as part of their project work. Examples include:

Year 1:

- CMPU 1005 Communications (focus on technical writing skills development)
- CSE19000C Programming Practice (technical and experimental write-ups)

• Year 2:

- o CMPU 2008 Human-Computer Interaction
- o IDSP 1701 Image Processing
- o CMPU 1039 Data Exploration
- o CSE22400T The Principles of Computer Organization

To further support students' writing development, academic writing support sessions will be

introduced at key stages of the programme. These sessions will take place in **early Year 1/2** to establish foundational writing skills and again in **Year 4**, specifically timed to assist students with their Bachelor's thesis preparation. BUCT also provide academic writing support via the English Support Team.

The Year 4 writing support will mirror existing practices in TU Dublin, leveraging the resources of the Academic Writing Support Centre, which currently provides targeted assistance for BSc Computer Science final year project students. This structured approach ensures that students are equipped with the skills needed to excel in both technical and academic writing across all stages of the programme.

9. Ensure that there is a rigorous vetting mechanism and feedback process for the work-based learning. Clarify the provision of alternatives to work based learning if that is not possible for a particular student.

Response:

This is related to work-based learning module - EEE39306P Project Practice Year 3.

We recognise the importance of this recommendation. We will ensure that these are compliant, with the current practice in BUCT with regard to work placement arrangements are explained further below:

Firstly, for the sake of students' employment, BUCT allow and indeed encourage students to seek relevant companies and do projects related to their majors on their own.

If students do not find an internship company on their own, the college has signed off-campus internship bases with a large number of companies and enterprises where students can complete their internships. BUCT are committed to giving every student an opportunity to practice internships. Depending on the number of companies accommodated, the students choose on their own and the students spend most of their time in the company assignments.

Other matters to be brought to the attention of Faculty Board and/or University Programmes Board	

Section G - Approvals

Validation Report		
This report has been agreed by the Validation Panel and is signed on their behalf by the		
chairperson.		
Chairperson: Patrick Flynn		
Signed:	Date: 06/01/2025	

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:	Paul Doyle	
Signed:	In Take	Date: 04/02/2025

Faculty Board		
The report and response have been approved by Faculty Board		
Head of Teaching & Learning:		
Signed:	Date: 06/02/2025	

University Programmes Board (Programmes of 30 ECTS or great)		
The report and response have been approved by the University Programmes Board		
Registrar:		
Signed:	Date: Click or tap to enter a date.	