



## Programme Validation Report

### Bachelor of Science (Honours) in Biomedical Design

<i>Version of Report</i>	<i>Author</i>	<i>Date</i>
1	Jan Cairns	16/05/2025
2	Jan Cairns	19/05/2025
3	Karen Fitzgerald	23/05/2025
		Click or tap to enter a date.

<i>Approval</i>	<i>Date</i>
Programme Proposal approved by Faculty Board	Click or tap to enter a date.
Programme Proposal approved by University Programmes Board	Click or tap to enter a date.
Programme approved by Faculty Board	Click or tap to enter a date.
Programme approved by University Programmes Board	Click or tap to enter a date.

#### Section A - Programme Details

Title	Bachelor of Science (Honours) in Biomedical Design
NFQ Level	8
ECTS Credits	240
Mode of delivery	Part-time <input type="checkbox"/> Full-time <input checked="" type="checkbox"/>
Duration	Part-time: Full-time: 4 years
Mode of provision	In-Person, On-Campus <input checked="" type="checkbox"/> Blended <input type="checkbox"/> Online <input type="checkbox"/>
Classification of award	First Class Honours; Second Class Honours, Upper Division; Second Class Honours, Lower Division; Pass
Discipline Programmes Board	
Faculty Board	Faculty of Engineering & Built Environment
Schools involved in delivery	School of Mechanical Engineering
Delivery location	TU Dublin Tallaght
Collaborative Partner (where applicable)	NA
Date of Commencement	September 2026

**Section B - Awards**

Award Title	Bachelor of Science (Honours) in Biomedical Design
NFQ Level	8
Award Class	Major
ECTS Credits	240 ECTS
Classification of award	First Class Honours; Second Class Honours, Upper Division; Second Class Honours, Lower Division; Pass

**Section C - Programme Derogations (if required)**

<i>Derogations from TU Dublin Policies, Assessment Regulations already approved by University Programmes Board</i>	
None sought	
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 <input checked="" type="checkbox"/>	AQEC Meeting <input type="checkbox"/>	AQEC Sub-Group <input type="checkbox"/>
Date: 16 <sup>th</sup> May 2025	Date:	Date:

**Panel Members**

Name	Role	Affiliation
Patrick Flynn	Panel Chair	Head of Teaching & Learning, Faculty of Engineering & Built Environment, TU Dublin
Dr Tanya Levingstone	External Panel Member	Associate Professor, School of Mechanical & Manufacturing Engineering, Dublin City University
Eimear McNerney	Internal Panel Member	School of Surveying & Construction Innovation, TU Dublin
Dr Ahmed Nasr	Internal Panel Member	School of Transport & Civil Engineering, TU Dublin
Gerard Stockil	Internal Panel Member	School of Electrical & Electronic Engineering, TU Dublin
Jan Cairns	Academic Quality Advisor	Academic Affairs, TU Dublin

**Section E - Programme Evaluation**

Governance & Management		
<i>Is the programme designed in accordance with the University's Strategic Plan, Educational Model and Quality Framework?</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment:		

The Panel is of the view that the programme supports the University's Strategic Plan and that it is closely aligned to the University Education Model. Please see Recommendation of the Panel in respect of making the programme's modules available to other programmes both within the School and across the University.		
<i>Will the proposed strategies for programme management and quality assurance ensure that the programme is well managed and continuously enhanced and is in accordance with the University's Quality Framework?</i>	Yes ✓	No <input type="checkbox"/>
<p>Comment:</p> <p>The programme will align to TU Dublin's Quality Framework in relation to programme management and quality assurance and enhancement.</p>		

Awards Standards		
<i>Are the programme aims and learning outcomes clearly written using appropriate terminology? (See TU Dublin Guidelines)</i>	Yes ✓	No <input type="checkbox"/>
Comment:		
<i>Are the programme aims and learning outcomes aligned to the proposed level of the award on the NFQ in accordance with applicable Award Standards?</i>	Yes ✓	No <input type="checkbox"/>
Comment:		
<i>Will the curricula, teaching, learning and assessment methods enable students to reach the appropriate standard to qualify for the award(s)?</i>	Yes ✓	No <input type="checkbox"/>
Comment:		
<i>Was the programme development appropriately informed by internal and external stakeholder input (including industry/practice, professional/regulatory bodies, and community organisations)?</i>	Yes ✓	No <input type="checkbox"/>
<p>Comment:</p> <p>The Panel acknowledges the input of staff both within the School and from other Schools in the development of the programme. The engagement with industry and community organisations is in the development and planned delivery of the programme is commended.</p>		
<i>Has the programme been benchmarked against similar programmes nationally and internationally?</i>	Yes ✓	No <input type="checkbox"/>
While the programme studies principles of engineering and science as applied in the biomedical field, this programme's focus on design sets this programme apart from other programmes in the biomedical field.		
<i>Did the programme development take account of relevant external discipline benchmarks and Professional Statutory and Regulatory Body requirements?</i>	Yes ✓	No <input type="checkbox"/>
<p>Comment:</p> <p>The programme development has taken account of the requirements of the Institute of Engineering Designers, to which the programme is likely to apply for accreditation.</p>		

Programme Design		
<i>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?</i>	Yes ✓	No <input type="checkbox"/>
Comment:		
<i>Will there be opportunities for students to input into curriculum design decisions in the future?</i>	Yes ✓	No <input type="checkbox"/>
University mechanisms for student feedback and input into curriculum design will apply. The Panel also notes that within modules there is scope for students to develop their own learning pathway through project work.		
<i>Is there a mechanism to ensure the input of external stakeholders in the ongoing development of the programme?</i>	Yes ✓	No <input type="checkbox"/>
Comment: Please see Recommendation of the Panel in respect of external stakeholders' ongoing input into programme development.		
<i>Is the programme curriculum well-structured with a logical progression of learning and development across the modules and stages?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel has noted how the programme is structured to ensure a progression in student learning, particularly around project work.		
<i>Are there appropriate opportunities for students to undertake work-based learning, through work placements or work-based projects or assignments?</i>	Yes ✓	No <input type="checkbox"/>
Comment: While the programme does not include a Structured Work Placement, the final year project shall be industry-based and will require the student to work with industry one day a week in the final semester.		
<i>If applicable, have the relevant Blended Learning Checklists (i.e. Learning Experience Context &amp; Programme Context) been fully completed and submitted to the Panel?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comment: N/A		
<i>Is the required programme and module information provided in the correct format?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comment: Please see Conditions of the Panel in relation to modality of module delivery, module learning outcomes and information on exit award.		

Learning, Teaching & Assessment		
<i>Is there an effective student-centred teaching and learning strategy that aligns with the University's strategies and Education Model?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel notes that the teaching and learning strategy effectively supports student learning.		
<i>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?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel commends the variety of assessment methods employed within modules.		

<i>Do the learning outcomes and assessment strategy ensure that academic integrity can be maintained and attempted breaches of academic integrity are minimised/easily detected?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel commends how assessment types, such as viva-style assessments,		
<i>Is there a comprehensive mapping of assessment methods and module learning outcomes and between module learning outcomes and programme learning outcomes?</i>	Yes ✓	No <input type="checkbox"/>
Comment: Please see Recommendation of the Panel in respect of this mapping.		
<i>Are there opportunities in all modules to provide students with timely and constructive feedback on their learning and development?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel notes that the approach to continuous assessment and the practical nature of the work undertaken provide opportunities for continuous feedback to students on their performance.		
<i>Do the teaching and assessment methods consider the diversity of the student cohort?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Programme Team is committed to attracting and supporting a diverse student cohort. The Panel notes how students have scope to develop their own learning pathway through module work.		

Student Supports & Learning Environment		
<i>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?</i>	Yes ✓	No <input type="checkbox"/>
Comment: Please see Panel's recommendation in respect of a designated studio space for students on this programme.		
<i>Are there sufficient staff that are appropriately qualified and capable to support the programme delivery, from both context and pedagogy perspectives?</i>	Yes ✓	No <input type="checkbox"/>
Comment: The Panel commends the Programme Team and their expertise and research record in this area.		
<i>Are there appropriate arrangements in place to support the student experience and to monitor student performance?</i>	Yes ✓	No <input type="checkbox"/>
Comment: See earlier comment in relation to monitoring student performance.		
<i>Are the access, transfer and progression arrangements clearly defined and appropriate, and aligned to TU Dublin policy/strategy in this regard?</i>	Yes ✓	No <input type="checkbox"/>
Comment: Do the student supports and learning environment cater for equality, diversity and inclusivity of students?		
Comment: See earlier comment in relation to supporting diversity and inclusivity.		

<i>Is the relevant programme information clearly communicated to the students to ensure they are informed, guided and cared for?</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Comment: The Student Handbook was provided to the Panel. Year Tutors have been identified.		
<i>Has the Checklist for First Year Student Success (where applicable) been fully completed and submitted to the Panel?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comment: Features of the First Year Framework for Success are in place and the Panel notes particularly the close monitoring of students and their engagement and performance in the first year.		

Collaborative Provision (if applicable)		
<i>Are the roles and responsibilities of each partner clearly defined?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comment: NA		
<i>In the case of Joint or Multiple Awards, has due diligence on capacity of partner institution meeting the QA-QE requirements for the programme been undertaken?</i>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Comment: NA		

## Section F - Overall Recommendation

1.	<b>Recommend approval of programme as submitted, without amendment</b>	<input type="checkbox"/>
2.	<b>Recommend approval of programme, subject to minor amendments/editorial changes to be completed as soon as possible and with recommendations for consideration.</b>  <b>Note:</b> 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.	<input type="checkbox"/>
3.	<b>Recommend approval of programme subject to the fulfilment of conditions. Recommendations for consideration may also be attached.</b>  <b>Note:</b> 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.	<input checked="" type="checkbox"/>
4.	<b>Do not recommend approval of programme.</b>	<input type="checkbox"/>

Areas for commendation	
1.	The enthusiasm of the staff and their detailed work in preparing the programme documentation.
2.	The multi-disciplinary nature of the programme and the cross-campus involvement in the development and delivery of the programme.
3.	The engagement with industry in the design of the programme, in particular the connection to industry in the Tallaght locale and the relationship with Tallaght University Hospital.
4.	The use of the 'viva' style presentation of students' project work to ensure that there is peer-to-peer learning in the delivery of feedback and that academic integrity is supported.
5.	The constructive alignment between programme and module learning outcomes.
6.	The community-based projects that bring real-world issues into the classroom, such as the 3D-printed products, and that connect the programme, and students, to the end user.

Conditions of Approval	
1.	<p>Module Descriptors should be reviewed to ensure that Learning Outcomes are correctly written and that typos are corrected and to ensure more consistency in the number of Module Learning Outcomes, for example, 5 ECTS modules where there are up to ten learning outcomes.</p> <p>Response: The review of the Module Descriptors, including the refinement of Learning Outcomes for clarity, consistency, and accuracy, is currently underway. I can confirm that this will be completed before the commencement of the programme.</p>
2.	<p>While it was clarified that there is an exit award for students who leave the programme having completed three years of the programme, this should be consistently presented within the programme documentation. The NFQ Level of the award and the Programme Learning Outcomes should be presented and it should be confirmed in the documentation whether this exit award is classified or unclassified.</p> <p>Response: We acknowledge the importance of presenting the exit award consistently across all programme documentation. The exit award—Bachelor of Science (Ordinary), Level 7—has been updated throughout all relevant materials, including the Programme and Module Catalogue (PMC). This award will be unclassified.</p> <p>The Programme Learning Outcomes for this exit award have also been revised and are now clearly presented in the documentation to reflect the expected standard at NFQ Level 7. Specifically, they place greater emphasis on the application of knowledge, structured problem-solving, and working under guidance.</p>
3.	The programme documentation should be revised to clarify that module delivery is In-Person, On-Campus rather than Blended or Online. In the Programme and Module Catalogue, the Modalities tab for each module should be completed to reflect this. In addition, the Learning and Teaching Methods field should also be completed for each module.

	<p>Response: The programme delivery mode has been updated in the Programme and Module Catalogue (PMC) to reflect In-Person, On-Campus and Technology-Enabled delivery. All module modalities will be aligned accordingly.</p> <p>A review is currently underway to identify modules requiring updates to the Learning and Teaching Methods field. I can confirm that this information will be completed and fully updated prior to the commencement of the programme.</p>
--	---

Recommendations	
1.	<p>The Programme Team should continue to work with colleagues to raise awareness of the programme modules and their availability for inclusion in other programmes, as well as potentially developing these new modules further in collaboration with other staff.</p> <p>Response: The Programme Team is committed to ongoing collaboration with colleagues across departments, schools and faculties to raise awareness of the programme modules and explore opportunities for their inclusion in other programmes. We also welcome the potential to further develop these modules in partnership with academic staff, ensuring they continue to meet evolving student and industry needs.</p>
2.	<p>The Programme Team should prepare a more detailed assessment schedule prior to the programme commencing.</p> <p>Response: An assessment schedule will be prepared in advance of the programme's commencement and will be included in the Student Handbook for clarity and transparency. The Programme Team will endeavour to coordinate assessment timings across modules, ensuring a balanced workload for students and to avoid clustering of assessments.</p>
3.	<p>The Programme Team should familiarise themselves with TU Dublin Guidelines on the Responsible Use of Generative Artificial Intelligence in Teaching and Learning and staff should engage with training, and upskilling where necessary. Students should also be made aware of their responsibilities in this regard.</p> <p>Response: The Programme Team will engage with the TU Dublin Guidelines on the use of Generative Artificial Intelligence in teaching and learning to ensure a clear understanding of institutional expectations. We will participate in any available training opportunities to support effective implementation. Furthermore, we will ensure that students are informed of their responsibilities in this area, promoting ethical and appropriate use of Generative AI in their academic work.</p>
4.	<p>The Programme Team should continue to engage with industry and other key stakeholders including clinical and patient groups as part of the ongoing programme development.</p> <p>Response: We will continue to actively engage with industry and other key stakeholders to ensure the programme continues to reflect both current practices and emerging trends. These relationships play a vital role in informing curriculum development and enhancing student learning opportunities.</p>
5.	<p>The Programme Team should consider preparing to make an application for appropriate Professional Body accreditation, such as the Institute of Engineering Designers UK).</p> <p>Response: We acknowledge the importance of securing appropriate accreditation and confirm our intention to apply to a relevant accrediting body in due course.</p>

6.	Designated studio space should be provided on campus to support peer-to-peer learning and provide a base for the students.
	Response: We recognise the importance of a dedicated studio space in supporting peer-to-peer learning, collaboration, and the development of a strong student identity within the programme. While the absence of this space will not delay the commencement of the programme, we consider it essential to the long-term success and quality of the student learning experience. Efforts to secure an appropriate space will continue as a priority.
7.	A legend should be provided in the mapping of Module Learning Outcomes to Programme Learning outcomes to explain the heat map used, and to acknowledge the origin of this heat map.
	Response: A statement has been included in the mapping of Modules to Programme Learning Outcomes and for the mapping of Modules to NFQ award descriptor fields to clearly explain the heat map values and their meaning. This legend provides a visual guide to the strength of alignment, ranging from weak to very strong. This heat map methodology is adapted from the Engineers Ireland accreditation process, which the programme team would be familiar with, where it is used as a tool to visually demonstrate the alignment between programme components and accreditation criteria.

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

The Panel notes that the Programme Team will continue to consider how the programme aligns with the University Education Model, such as the mapping of modules to Sustainable Development Goals (SDGs).

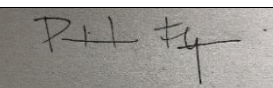
It is noted that this programme like all others within TU Dublin will need to reflect University assessment regulations including, for example, award classifications that are approved for implementation in September 2025. Derogations will need to be sought, should deviation from the regulations be deemed necessary.

### Section G - Approvals

#### Validation Report

This report has been agreed by the Validation Panel and is signed on their behalf by the chairperson.

Chairperson:

Signed: 

Date: 16/05/2025


#### 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: Dr. Charlie Cullen

Signed: 

Date: 04/06/2025

Faculty Board	
The report and response have been approved by Faculty Board	
Dean: Dr Paul Doyle	
 Signed:	Date: 05/06/2025

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.