# Differential Validation Report Form

# Report of the Review Panel

Reference AQAE046 *Procedure for Approving and Implementing Changes to Programmes and* AQAE047 *Procedure for Approving and Implementing Changes to Modules.* Used for Major Changes to Programme(s) (Type A).

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| **Programme Reference Number:** | M147 |
| **Faculty/School(s):** | Faculty of Engineering and Technology |
| **Department(s):** | Department of Electronic and Mechanical Engineering |

## Details of Programme(s) Reviewed (include embedded awards):

| Title: | Award Type: | NFQ Level: | ECTS: | Duration | Delivery Mode: |
|---|---|---|---|---|---|
| Bachelor of Engineering (Hons) in Biomedical Design | Major | 8 | 240 | 4 Stages | Full-Time |

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| **Date of Review:** | 29 May 2025 |

## Review Panel

| Panellist Role | Title | Name | Organisation | Job Title |
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| Chair | Dr | Kim McFadden | ATU | Head of Department of Life and Physical Sciences |
| External Academic/Industry Discipline Expert* | Ms | Joanne Cassidy | Abbott Diabetes Care | Learning and Development Specialist |
| Academic/Head of Department | Dr | Carine Gachon | ATU | Transcend Project Manager |
| Vice President for Academic Affairs and Registrar (VPAAR) Nominee/Academic Secretary | Mr | Declan Courell | ATU | Assistant Registrar |

*One or two external members of panel in total.

All external members of the panel have declared that they are independent of ATU (Atlantic Technological University), and all have declared that they have no conflict of interest.

## Programme Board

The panel met the staff listed below during the review of the proposed modifications.

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| Christopher Crossan | Dean Harron |
| Christopher Roulston | Paddy Hannigan |
| Emmett Kerr | |
| Charles Young | |
| Eoin Byrne | |
| Paul Ferry | |

## Summary of Proposed Modifications

All changes are to year 4 of the BEng (Hons) in Biomedical Engineering course in our Letterkenny Campus. This course only ran once and the cohort of students are scheduled to being their final (4th year) in September 2025. However, the course is very Electronics focused so I am proposing replacing two of the modules with more biomedical focused modules, one in each semester of Stage 4 (sem 7 and sem 8). Both of the modules are currently approved and taught in our Galway campus. What I am proposing is to replace the current "Communications Technologies for Embedded Systems" module for the "Tissue Engineering" module for semester 7. We teach the Tissue Engineering module in our Galway campus so it would be the same module only taught in our Letterkenny campus for the students. Secondly, I wish to replace the current "Networking of Embedded Systems" module with the "Medical Devices I" module in semester 8. Again, the Medical Devices I module is currently an approved module taught in our Galway campus so it would be the module but taught in our Letterkenny campus for the students.

## Rationale for Modifications

The proposed changes to Stage 4 (Semesters 7 and 8) of the BEng (Hons) in Biomedical Engineering are being submitted in response to direct feedback from the current student cohort and an academic review of the alignment between final year content and the intended graduate profile of a biomedical engineer.

The existing Stage 4 curriculum places a strong emphasis on embedded systems and electronics, which, while foundational to engineering, does not fully reflect the broader interdisciplinary demands of the biomedical engineering industry. Specifically, the current modules "Communications Technologies for Embedded Systems" (Semester 7) and "Networking of Embedded Systems" (Semester 8) are more closely aligned with electronic systems engineering and do not sufficiently cover key biomedical content areas relevant to the students' future careers.

To address this, it is proposed to:

- Replace "Communications Technologies for Embedded Systems" with "Tissue Engineering" in Semester 7
- Replace "Networking of Embedded Systems" with "Medical Devices I" in Semester 8

Both replacement modules (Tissue Engineering and Medical Devices I) are approved and currently delivered in the ATU Galway campus. They have a strong biomedical focus and align closely with the programme's aims of developing graduates with the technical, scientific, and regulatory knowledge required to work in the biomedical sector.

This proposal is also informed by repeated consultation with the student cohort, who have expressed concern over the electronics-heavy nature of the programme and a perceived lack of biomedical depth in the final year. These concerns were formally raised at programme board meetings and in direct conversations with academic staff. Importantly, 100% of the students in the cohort have expressed full support for these proposed changes and appreciate the proactive steps being taken to ensure their final year of study is more relevant and beneficial to their future careers.

The proposed changes will have no negative impact on the Programme Learning Outcomes (PLOs); on the contrary, they will enhance graduate preparedness for biomedical roles in areas such as tissue engineering, medical devices, and healthcare technologies. As the course is only running once with a single cohort, this proposal represents a tailored and student-centred enhancement of curriculum quality and relevance, delivered within the structure of existing, validated modules.

This approach ensures that students are supported in graduating with the competencies, confidence, and industry-aligned knowledge expected of biomedical engineering professionals.

## Findings

**Overall Finding**

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| Approved without changes | **X** |
| Approved subject to condition(s) and/or recommendation(s) | |
| Rejected | |

## Report Approval

The evaluation panel has agreed on this report and signed on their behalf by the chairperson.

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| **Signed:**<br>Kim McFadden.<br><br>**Name: Kim McFadden**<br>**Differential Validation Panel Chair** | **Date 29/05/2025** |