# VALIDATION REPORT

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| 1. | Title of Programme(s): (incl. Award Type and Specify Embedded Exit Awards) | Higher Diploma in Science in Medical Science |
| 2. | NFQ Level(s)/ No. ECTS: | Level 8<br>60 ECTS |
| 3. | Duration: | 2 Years |
| 4. | ISCED Code: | 0914 - Medical diag & treatment tech |
| 5. | School / Centre: | School of Science and Computing |
| 6. | Department: | Department of Analytical, Biopharmaceutical & Medical Sciences |
| 7. | Type of Review: | New programme |
| 8. | Date of Review: | May 23rd, 2022 |
| 9. | Delivery Mode: | Blended |
| 10. | Panel Members: | Dr Michael Hall, Head of School of Health and Social Sciences, MTU, Kerry (Chair)<br>Dr Fiona O Halloran, Lecturer and Principal Investigator in the NutRI Research Group, Department of Biological Sciences, MTU Cork<br>Dr PJ Naughton, Senior Lecturer in Medical Microbiology, Ulster University<br>Ms. Hayley Foy-Stones, Medical Scientist, Haematology Department, St. James' Hospital, Dublin<br>Ms Carmel Brennan, Assistant Registrar (Quality), (Secretary) |
| 11. | Proposing Staff: | Dr Des Foley,<br>Dr Eugene McCarthy,<br>Dr Eleanor Rainsford,<br>Ms Brigid Hooban,<br>Dr Debbie Corcoran,<br>Dr Mary McGrath,<br>Dr Joan O'Keeffe,<br>Dr Sharon Duffy,<br>Dr Brian Moran,<br>Ms. Terri Muldoon,<br>Ms. Helen Cregg,<br>Dr Declan Maher,<br>Dr Judith Wurmel,<br>Ms. Fiona Kenny,<br>Dr Niall Maloney,<br>Dr Shelia Flaherty |

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| 12. | Programme Rationale: | The existing BSc (Hons) in Medical Science programme has responded to recruitment shortages (that were compounded by the Covid pandemic) by increasing the intake of students in the academic years 2020/21 and 2021/22 (in GMIT the intake went from 32 to 48). However, this is not considered a long-term solution since there is a limited supply of practice placement positions in hospital placement sites for students of the programme.<br>Furthermore, it does not address demand within the profession to develop a "conversion" programme for graduates of other science degrees who are working as medical laboratory assistants (or "lab aides") and who wish to become medical scientists.<br>The BSc (Hons) in Medical Science programme receives numerous enquiries annually about entry/advanced entry to the programme from graduates of other science degrees. However, the programme is unable to facilitate advanced entry due to the limited supply of practice placement positions.<br>Demand for an alternative route of entry to the profession is not new. In the past, the ACSLM introduced a graduate programme to allow graduates from other science degrees to complete a clinical placement, become eligible for membership of the ACSLM and then join the profession. This programme was discontinued because of concerns that the add-on clinical placement programme did not provide the required multidisciplinary training required for working as a medical scientist. However, no alternative route of entry was proposed.<br><br>In the last year, the HSE have requested the third level institutes already providing training for medical scientists to develop a conversion programme in Medical Science for lab aides employed in the hospital. The development of a Higher Diploma in Medical Science is intended to meet the existing demand for medical scientists throughout the country from small rural hospital laboratories to large pathology laboratories and will also address the demand for a programme for laboratory assistants to up-skill and become medical scientists. Graduates will be required to register with CORU and so it is proposed to apply for CORU approval of the programme. Laboratory assistants are currently employed in numerous laboratories to provide support for the work of medical scientists. The proposed programme will require that applicants are currently employed as laboratory assistants in a clinical diagnostic laboratory working to ISO15189. The primary reason for this |

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| | | is to ensure that practice placements (which will also be required for this cohort of students) will already be secured before entry to the programme. Applicants are also required to have completed a L8 degree in an appropriate area (biological sciences) and will have completed a laboratory-based research project as part of that programme. |
| 13. | Proposed Student Intake: | 16 |
| 14. | Stakeholder Engagement: | The BSc Medical Science programme board set up an Industrial Liaison Committee (later renamed Stakeholder Liaison Committee) in 2011. Committee meetings provide a forum for regular and formal consultations with medical scientist professionals in our region. One of the functions of the committee is to offer expert advice to the programme board regarding any changes that are occurring in the profession and how the programme can respond to these changes. In the last number of years, members of the committee have voiced concerns about the shortage of suitably qualified medical scientists in our region.<br><br>The proposing team met with the laboratory manager, a chief medical scientist, and the HR manager from Letterkenny University Hospital at their request in November 2021. The purpose of the meeting was to discuss shortfalls in the availability of medical scientists, particularly in the area of histopathology. The proposing team outlined the intention to develop a programme, and this was welcomed.<br><br>Further consultation with our professional colleagues in the region was carried out through a detailed questionnaire. The questionnaire was distributed in November 2021. Twenty out of twenty-two respondents to this survey were at a senior level in a clinical diagnostic laboratory. There was representation from all nine of the current placement sites used by ATU for the Medical Science practice placement.<br><br>The proposal team's research and consultations with practitioners indicate that the current skills deficit in medical science is significant, and the findings influenced the design of the programme. |
| 15. | Graduate Demand/Employment: | The proposed Higher Diploma in Medical Science will not alone future-proof graduates with clinical laboratory skills but will also address the needs of the profession for both |

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| | | existing and future activities. It is expected that the profile of the learners enrolled onto the programme will be practising laboratory assistants and will have a relevant level 8 qualification in science in a biology related discipline. The consultation process highlighted the issue of block release for on-site activities and the conflict with meeting the demands of working within the clinical laboratory. Based on the information collected the programme was designed to be delivered in blended mode, a unique selling point of the programme. The Healthcare sector employs approximately 2000 medical scientists. Due to the issues created by the Covid-19 pandemic it is expected that the demand for skills will continue.<br>Graduates of the proposed Post Graduate Diploma will be eligible to apply for CORU registration and work as medical scientists in Ireland. Graduates can also develop careers in medical research and in the pharmaceutical and biomedical sectors. |
| 16. | Entry Requirements, Access, Transfer & Progression: | Minimum L8 in a cognate discipline such as Biochemistry or Clinical/Medical Microbiology or Immunology or equivalent and have completed a laboratory-based research project.<br><br>1. English language requirements as per GMIT admissions policy.<br>2. Applicant must be in employment in a hospital laboratory working to ISO 15189 standard AND have a letter from the laboratory management that commits to 1000 hours of practice placement. In the event of a work contract expiring, the applicant should be guaranteed 1000 hours of practice placement by the employer.<br>3. Applicants must submit an RPL application for the Research Project, demonstrating prior learning to the below learning outcomes<br>-Design, plan and carry out a research project<br>-Identify and critically appraise relevant literature specific to the project research area.<br>-Collate data, analyse and discuss findings in relation to other research findings in the literature.<br>-Produce a written report of the research project and communicate findings in a manner appropriate for the scientific community.<br>-Conduct research in adherence with ethical, safety and professional codes.<br><br>Graduates are eligible to apply for cognate Level 9 and Level 10 programmes. |

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| 17. | Programme Structure: | This programme is intended to be delivered in a blended mode. Theory will be delivered by online lectures (recorded) with regular “live “tutorials to support student learning. A small number of practical activities in each discipline will be delivered onsite (GMIT). Some of these practical activities may also be undertaken in the hospital site where the student is an employee. Practice placement will take place in the student’s workplace and will be supported by a Practice Education Team (PET) made up of GMIT and hospital practitioners. |
| 18. | Learning, Teaching & Assessment Strategies: | Students will be supported in their learning in a collaborative online learning environment. The programme team plan to integrate the use of circle style peer support meetings and group projects into module delivery. In addition, student-centred teaching strategies will maximise the use of problem-based learning methods focussed on real-world scenarios relevant to the discipline. A variety of appropriate teaching modalities will be used: Lectures (live online and recorded) provided by academic (medical scientist) staff. Tutorials/workshops to provide support for theory content. Onsite laboratory activities to support practical and theory content.<br><br>The variety of assessment methods employed will ensure that students with a wide range of learning styles will be facilitated. Assessment methods will be designed to be authentic in nature and include case studies, written reports/assignments, oral presentations, written exams, statistical analysis, and literature analysis. Formative assessment will be ongoing in each module and the use of rubric based assessments will support student learning. An assessment schedule will be drawn up by the programme board at the start of the semester to ensure a balanced workload for students over the entire semester. This assessment schedule will be distributed to the students at the start of the semester. Where appropriate, integrated assessments will be used between modules. Feedback on performance in assessments will be provided to students in a timely manner. |
| 19. | Resource Implications: | Two additional Academic FTE staff to support this programme are required. |

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| | | Programmes must have access to sufficient dedicated administrative, technical or other learning support staff to support their effective delivery, as appropriate to the programme's study mode. Programme delivery should be supported 0.5 FTE administrative and secretarial staff once the programme is CORU approved.<br><br>As this programme is predominantly on-line, support from the relevant learning technologist is required to help lecturer's prepare on-line material. It is envisaged that 2-3 hours<br>support per week is required for the first iteration of the programme. |
| 20. | Synergies with Existing Programmes: | None. |
| 21. | Findings and Recommendations: | Commendations:<br>1. The responsiveness of the Programme Board in developing a programme in response to a shortage of qualified Medical Scientists.<br>2. The positive engagement of the Programme Board with the panel.<br>3. The adoption of a blended learning approach to reflect the needs of the target cohort. |
| | | Conditions:<br>1. Promotion of the programme must clearly state that the programme is still subject to approval by CORU.<br>2. Review all modules as follows:<br>- Review module learning outcomes ensuring all begin with an active verb appropriate to a level 8 module and comply with CORU proficiencies.<br>- Review all modules to include an indicative breakdown of the assessment strategy, demonstrating how assessments meet CORU requirements and clarifying the repeat assessment methodologies.<br>- Review module reading lists to ensure that they are up to date.<br>- In relevant modules review the repeat assessment strategy considering whether repeat attend is appropriate in all instances. |

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| | | Recommendations:<br>1. Include the mapping of the programme against CORU proficiencies in the programme document.<br>2. Include an assessment map and an indicative assessment timetable in the programme document.<br>3. Clarify whether RPL is permitted for entry onto the programme and/or exemptions from modules.<br>4. Consider development of minor awards to meet industry CPD requirements.<br>5. Consider whether the numbering after module titles should be retained and appear on student transcripts.<br>6. PLAC08010 Practice Placement in Medical Science 1.1: Record the grading mode for this module as pass/fail. Further develop the placement rubric to adequately capture whether and how the student has passed. Articulate in the module descriptor the requirements for passing the module. Consider building the Practice Placement as a supplemental award and/or using a different title to the undergraduate module.<br>7. MEDI08028 Pathology in Practice: Review the module assessment strategy providing a different focus for each case study.<br>8. BIOL08045 Research Methods in Medical Science 1.1: Consider a systematic review rather than a literature review which will provide students with a new and valuable skill set. Consider renaming the module Clinical Research Methods in Medical Science. | |
| 22. | FAO: Academic Council: | Approved: | |
| | | Approved subject to recommended changes: | X |
| | | Not approved at this time: | |
| | Signed: | | |
| | | Chair | Secretary |