

Report of External Peer Review Group for the Programmatic Review of:

Programme	Code	Level	ECTS	Duration	Award Type	Embedded/Parent Awards
Bachelor of Science (Honours) in Medical Science	GA_SCMLG_H08	8	240	4	Major	Higher Certificate in Science
Higher Certificate in Science (Exit)	GA_SCMLG_C06	6	120	2	Exit	Parent: BSc (Hons) in Medical Science

Date of Panel:

May 23rd, 2022

External Peer Review Group:

Panel	
Chairperson	Dr Michael Hall, Head of School of Health and Social Sciences, MTU, Kerry.
IoT/ Uni Representative	Dr Fiona O Halloran, Lecturer and Investigator in the NutRI Research group Dept of Biological Sciences, MY
IoT/ Uni Representative	Dr PJ Naughton, Senior Lecturer in Medical Microbiology, Ulster University
Graduate Representative	Ms. Hayley Foy-Stones, Haematology Dept, St. James' Hospital, Dublin
Secretary	Ms. Carmel Brennan Assistant Registrar (Quality)

1 Introduction to Programmatic Review

Programmatic review involves a periodic, formal, systematic, comprehensive, and reflective review and evaluation of each programme and award offered by the Institute for purposes of programme development, quality enhancement and revalidation. It is an important means of ensuring and assuring, *inter alia*:

- that required academic standards are being attained;
- that programmes and awards remain relevant and viable;
- that student needs, including academic and labour-market needs, are addressed;
- that the quality of programmes and awards is enhanced and improved;
- public confidence in the quality of GMIT's programmes and awards.

GMIT last conducted Programmatic Review in 2014 and was due to undertake it again in 2019/20. The process was delayed until this year due to the COVID-19 pandemic.

The objective of a programmatic review is to review the development of the programme over the previous five to seven years, with particular emphasis on the achievement and improvement of educational quality. The focus is principally on the evaluation of quality and the flexibility of the programmes' responses to changing needs in light of the validation criteria and relevant awards standards. In particular, a programmatic review seeks to confirm that the promise evidenced at the original validation (or since the last programmatic review) in terms of academic quality, relevance and viability has been realised, and that the programme is adapting appropriately to evolving circumstances.

The specific objectives of a programmatic review are, *inter alia*, to:

- analyse and evaluate the effectiveness and efficiency of the programme, including details of student numbers, retention rates and success rates;
- review the development of the programme in the context of the requirements of employers, industry, professional bodies, the Irish economy and international developments;
- evaluate the response of the programme to regional and societal requirements and to educational developments;
- evaluate the feedback mechanisms for students and the processes for acting on this feedback;
- review the feedback from students relating to the student experience of the programme
- evaluate stakeholder engagement including links and collaboration with industry, business and the wider community;
- review feedback from employers and graduates;
- evaluate the physical facilities and resources provided for the provision of the programme;
- review any research activities in the field of learning in the disciplinary areas and their impact on teaching and learning;
- consider likely future developments in the disciplinary areas;
- make proposals in relation to updating programmes and modules, and to discontinuing programmes or parts of programmes.

Academic Council identified three themes to be specifically addressed during the 2021/22 Programmatic Review namely:

- Assessment – ensure the assessment strategy and methodology are appropriate and aligned with learning outcomes and that students are not over-assessed.
- Employability – ensure that students develop career skills necessary to prepare them for employment. Embed professional practice (e.g., work placement, work-based projects in the programme, ensuring that there is an appropriate plan for their management)
- Sustainability – review modules and learning outcomes to ensure that the sustainability agenda is addressed, debated, and applied within student learning and assessment, as appropriate.

2 Methodology

The programmatic review process involves a self-evaluation by each programme board followed by an external peer review. The Programme board engaged in a process of the collection and review of data related to the programme and feedback from stakeholders including students, graduates and industry. The overall programme and each individual module have been reviewed and recommendation(s) for updates made as required.

The External Peer Review Group (EPRG) received a copy of the Self Evaluation Review documentation and the programme documentation including any proposed changes. The EPRG then met the Programme Board

(Appendix A) to discuss the programme and the documentation provided, as well as meeting a representative sample of students (Appendix B). The schedule for the review visit is contained in Appendix C.

3 Background to Programme(s) Being Reviewed

Bachelor of Science (Honours) in Medical Science Higher Certificate in Science (Exit)

GMIT has been involved in providing professional programmes in Medical Laboratory Science/ Biomedical Science for over forty-five years. The original programme, established in 1974 at GMIT, was a 1-year full-time programme followed by a 2-year hospital laboratory placement and block release programme at the Dublin Institute of Technology (DIT), leading to a Certificate in Medical Laboratory Science. In 2005 a new, four-year, dedicated, Ab Initio Honours Degree in Medical Science was approved by the Academy of Medical Laboratory Science and by HETAC. The B.Sc in Medical Science at GMIT had its first intake of first year students in September 2005, graduating in 2009. Over the course of the four years to the first award, the programme team developed what has become a successful honours degree programme.

The Medical Science programme focuses on the study of the laboratory diagnosis and monitoring of clinical conditions. The aim of the programme is to produce graduates that will meet the standards of proficiency required for statutory registration by CORU and thus be eligible to practice as medical scientists in clinical diagnostic laboratories in Ireland. Other career opportunities include working as research scientists, working in pharmaceutical industries as well as in other roles in the healthcare industry. In 2021 the programme underwent an approval process for recognition by the state registration body, CORU. Successful completion of this process ensures that graduates of the BSc (Hons) Medical Science can register as medical scientists upon graduation.

4 General Findings of the External Peer Review Group

Having considered the documentation provided and discussed it with the Programme Board, the External Peer Review Group recommends the following:

Accredited until the next programmatic review	
Accredited until the next programmatic review subject to conditions and/or recommendations ¹	X
Re-design and re-submit to the same External Peer Review Group after additional developmental work	
Not Accredited	

¹ **Note:**

Approval is conditional on the submission of a revised programme document that takes account of the conditions and recommendations outlined in the report and a response document describing the actions to address the conditions and recommendations made by the External Peer Review Group (EPRG). In this report, the term 'condition' is used to indicate an action or amendment which in the view of the EPRG must be undertaken prior to the commencement of the next delivery of the programme. Conditions are mandatory if the programme is to be approved. The term 'recommendation' indicates an item to which the Programme Board should give serious consideration for implementation at an early stage and which should be the subject of on-going monitoring.

5 Programme-Level Findings – Bachelor of Science (Honours) in Medical Science and Embedded Awards

Consideration for the panel	Overall finding: Yes/No/Partially
Is there an ongoing need for the programme and has evidence been provided to support it?	Yes
Is the level and type of the award appropriate?	Yes
Are the entry requirements for the proposed programme clear and appropriate?	Yes
Is there a relationship between this programme and further education?	Yes
Are the access, transfer and progression procedures appropriate?	Yes
Does the programme comply with the Institute norms for retention, both in first year and subsequent years? Where not, does the Programme Board proactively take appropriate measures to optimise student engagement and retention?	Yes
Does the programme meet the required standards for programmes at its NFQ level (i.e., conform to GMIT Award Standards ²)? For Parent Award? For Embedded Award(s) (if applicable)? For Exit Award (if applicable)? For Minor Award (if applicable)?	Yes
Is the programme structure logical, well designed, and can the stated programme intended learning outcomes, in terms of employment skills and career opportunities, be met by this programme?	Yes
Have appropriate learning and teaching strategies been provided for the programme that supports Student Centered Learning (SCL)?	Yes
Have appropriate programme assessment strategies been provided for the programme taking account of the student workload?	Yes
Is there evidence that learning and teaching is informed by research?	Yes
Have appropriate quality management procedures been implemented in line with GMIT's Quality Assurance Framework? (e.g., Induction, Programme Handbook, Programme Board, Student Feedback, External Examiners)	Yes
Does the proposed programme demonstrate an international dimension? (e.g. content, mobility, collaboration)	Yes
Does the programme encompass sustainable development principles and ethos?	Yes
Does the programme embed employability through the inclusion of work placements, employment preparatory module(s) and/or work-based projects?	Yes
Is there evidence of strategies to promote diversity and inclusion?	Yes
Is entrepreneurship, creativity and innovation embedded in the programme?	Yes
Has the efficiency of the programme's design been considered? For example, does the programme meet the Institute norms on staff:student ratios for programmes of this type?	Yes
Is the programme externally facing? (e.g. Stakeholder engagement, guest speakers, fieldtrips, applied projects)	Yes

² GMIT has adopted QQI's award standards which are available [HERE](#).

Programmatic Review commenced in 2019-20, and since then the programme has been through a Differential Validation to align learning outcomes with CORU proficiencies. This involved primarily an adjustment to language used to align with terminology and proficiencies used by CORU. CORU recognition was achieved in 2021. The review process was informed by stakeholder feedback. The primary feedback from students related to the workload demands in stage 3 of the programme, which has been addressed in the proposed changes.

In response to increased demand for students the programme has admitted 48 rather than 32 students, but this is not sustainable in the longer term. To compensate for migrating back to 32 students there is a proposed Higher Diploma programme that will have an intake of 16. The increased class size did not impact on the student experience as laboratory groups remained the same size. The challenge with larger groups is sourcing off placement. The Programme Board have been proactive in working with hospitals to source placement.

The number of first-class honours awards is appropriate and reviewed by the External Examiners to the programme. The External Examiners regularly meet with some students from the final year for a viva and to agree the level of the award. In addition, they see a sample of assessments and review borderline cases. The need to consider what measures or changes can be taken to enable students to maximise their learning potential was discussed.

A survey of graduate destinations is taken nine months following graduation. Most graduates are employed in hospital laboratories with only a small number working in research or pursuing postgraduate studies in medicine. Whilst it was reported that some graduates leave the profession nationally, this is not a large issue for graduates of this programme.

Award classification has been based on a proportion of stage 3 and 4 results heretofore. However, it is proposed that the award should be calculated based on stage 4 results in the future. This is due to the fact that the calculation over two years has been disadvantaging students with non-core modules contributing to the overall award classification.

Where for some reason the 1,000 hours of placement cannot be completed in 25 weeks, the placement extends into the summer. Placement hours are logged with the assistance of the workplace. Students facing issues can contact the academic supervisor and they are supported as appropriate. Each case is dealt with on an individual basis. Both students and trainers are provided with handbooks to support the placement, and academic supervisors conduct placement visits.

Medical Science students do not have specific support requirements. They avail of the Academic Writing Center and the Maths Learning Centre, library tours, database workshops and endnote training. Students visit a hospital laboratory in stage one which helps students see what they are studying to be and do. Students are supported in relation to CVs and mock interviews through the Careers Office and on an ad hoc basis by individual lecturers.

One of the learnings from the Covid pandemic which has been useful and will be retained is the use of e-Portfolios during the practice placement. This initiative has won a teaching innovation award for innovative use of digital tools in science.

Research is embedded in teaching. It is intended to run a symposium to share research output. Year 4 research projects take place in hospitals generally, with some taking place in ATU research groups. All students are provided with project handbooks. Student complete progress reports in addition to the thesis document and poster presentation. There are agreed timelines for feedback to ensure that students learn as they progress through their research project.

The importance of staff engaging with CPD was emphasised generally but in particular to comply with CORU requirements. Whilst there was agreement that ATU supports staff in engaging with professional development, time is an issue.

The panel met with a number of students in stages 3 and 4 of the programme. Students didn't realise the importance of quality management as a topic until they went on placement. Some topics weren't considered relevant to placement e.g., epidemiology. Where modules contained two elements, separate exam papers were preferred. There was learning between assessments using lecturer feedback. Students commented that the availability of recorded lectures during Covid allowed revision of challenging topics. They felt that they could be better prepared to use the e-portfolio and that they would like to get more marks for this aspect of the placement. The final year project could be better supported. There was a preference for authentic assessments rather than essay questions in an examination setting. They would also like to see free elective choice rather than elective streams. The most positive aspects of the programme noted were the multiple modes of assessment methodology, laboratory work, work readiness of graduates and the emphasis on laboratory reports.

The proposed changes arise mainly from student feedback and relate mainly to assessment breakdown, revised programme learning outcomes and the restructuring of semester 5. All changes as outlined in Appendix D were approved and the programme was accredited until the next programmatic review subject to the recommendations below.

Commendation(s):

1. The provision of clear and comprehensive documentation and the positive engagement of the Programme Board with the panel.
2. The Programme Board have engaged in considerable work during the review of the programme and in attaining regulatory and professional accreditation with CORU and IBMS.
3. The students the panel met with are good ambassadors for the programme.
4. The Programme Board are evidently student centric as exemplified by the introduction of level seven exit award.
5. There is a clear focus on sustainability by the School who are working to achieve Green Lab status.
6. Lecturing staff are proactive in embracing teaching and learning innovation e.g., E-portfolio award, use of recorded lectures.

Condition(s):

None.

Recommendation(s):

1. Clarify in the documentation that there is sufficient space to deliver practicals, albeit using an extended working day.
2. Remove the link between the programme's CAO entry points and the performance of the programme in the documentation.
3. Continue to review student assessment authenticity and workload.
4. Ensure staff are supported in their completion of CPD which is necessary to maintain CORU approval.
5. Edit the documentation to ensure it is complete and accurate.

Module Recommendation(s):

Module Title	Recommendation(s)
MEDI08018 2022 Professional Practice in Medical Science	Clarify the breakdown of assessment marks. Provide exemplars and additional guidelines for students completing the Professional Practice e-portfolio.

	Consider introducing the concept/use of an e-portfolio (or something similar) earlier in the programme to ensure that students have some level of familiarity and understand the expectations
MEDI08022 2021 Research Project for Medical Science	Provide a breakdown of the 100% CA, showing the assessments of key milestones to support and monitor student progress. Ensure that there is consultation with the students, so they have sufficient detail in relation to the process and milestones. Consider whether students can be provided with more choice in relation to the project topic.
EDUS06013 2022 Learning and Innovation Skills for Medical Science	Consider renaming to: Academic & Professional Development for Medical Scientists.

Validation Panel Report Approved By:

Signed:

Insert name

Chairperson

Date:

Appendix A - Programme Board Members

The panel met with the following staff:

Name	Position
Dr Eugene McCarthy	HoD Analytical Biopharmaceutical and Medical Sciences
Dr Des Foley	Head of School of Science and Computing

The panel met with the following BSc Medical Science Academic staff:

Ms. Brigid Hooban	Dr Debbie Corcoran	Dr Mary McGrath
Dr Eleanor Rainsford	Dr Joan O’Keeffe	Dr Sharon Duffy
Dr Brian Moran	Dr. Terri Muldoon	Ms. Helen Cregg
Dr Declan Maher	Dr Trish O’Connell	Dr Orla Slattery
Dr Emer Quirke	Ms. Elaine McGrath	Dr Judith Wurmel
Dr Fiona Kenny	Dr Niall Maloney	Dr Shelia Faherty

Appendix B - Student Representatives

The panel met with the following student representatives:

Student Name	Programme	Stage
Ms. Rachael Curran	Bachelor of Science (Honours) in Medical Science	3
Mr. Daniele Gomes Da Silva	Bachelor of Science (Honours) in Medical Science	3
Mr. Daniel O Neill	Bachelor of Science (Honours) in Medical Science	4
Ms. Melissa McTigue	Bachelor of Science (Honours) in Medical Science	4

Appendix C - Schedule of Meetings

Agenda	
Date:	26th April 2022
9am	Panel Meet
9.30am	Meeting with BSc (Hons) Medical Science Programme Board
11.30am	Coffee Break
11.45am	Meeting with Students
12.15pm	Private Deliberations
12.45pm	Lunch
1.45pm	Panel Meet
2.15pm	Meet with HDip in Medical Science Proposers
4.30pm	Private Deliberations
5pm	Initial Feedback
The Agenda may be subject to slight alteration on the day.	

Appendix D - Proposed Changes for Bachelor of Science (Honours) in Medical Science and Embedded Awards

Topic	Proposed Change	Rationale
Programme Learning Outcomes		To update PLO's in line with QQI Science Award standards, CORU requirements and thematic areas of programmatic review.
Overall Contact Hours		
Structure or Sequencing of Modules	Year 3 semester 1 modules from 10 weeks to 9 weeks	Reduction of 5 modules to 4 modules and subsequent increase of ECTS for Practice Placement Module workload
Addition of New Module(s)		
New APS Regulations	Removal of weighted calculation of award	Negatively impacted on student performance.
Minimum Entry Requirements		
Changed transfer or progression routes		
Teaching & Learning Strategy		
Assessment Strategy		
Module Changes		
Human Genetics	Removal from year 3	Reduction of workload
Applied Immunotechnology	Move to 100% CA	Reduction of assessment burden.
Analytical Techniques & Instrumentation	Move to 100% CA	Reduction of workload
Practice Placement	Increased to 40 ECTS	
DNA Technology/Molecular Diagnostics	Move to 100% CA	Reduction of workload
Quality Management & Statistics	Move to 100% CA	Reduction of workload
Medical Microbiology 2	Move to 50% CA and 50 % Final Exam	Allow more weighting to be given to the assessment of practical skills and competencies within the CA.
Clinical Chemistry 1	Change in weighting to CA and Final Exam (both now 50%)	Allows more weighting to be given to the assessment of practical skills and competencies within the CA
Clinical Chemistry 2	Change in weighting to Practical Assessment to 30% and subsequent reduction in final exam to 50%.	Allows more weighting to be given to the assessment of practical skills and competencies within the CA
Epidemiology & Pathophysiology	Move to 100% CA	Balance student workload