

Departmental of Biology - Quality Improvement Plan

The Quality Improvement Plan is structured around Actions proposed in response to Recommendations from the Peer

Review Group. Recommendations are categorised as being institutional/strategic (S1-S11) or department (U1-U13) level.



Number	Panel recommendation	Comments	Proposed Actions	Priority Level
S1	Support the development of a School/Institute for Life Sciences and a rebranding/badging of the department. Department is “unknown”. “Biology” is no longer innovative. Life Sciences will be more appealing to potential students.	<ul style="list-style-type: none"> The change of name from ‘Biology’ to ‘Life Sciences’ will have a positive impact on how the Department/School is perceived by prospective students, the research community and employers. ‘Life Sciences’ encompasses more broadly the Biology-based disciplines that have developed in the last decades and has a more modern connotation than ‘Biology’. The change from ‘Department’ to ‘School’ will allow for the area of Life Sciences to grow and will parallel changes occurring in teaching programmes at MU. The proposed change will highlight that Life Sciences is a dynamic and rapidly developing area at MU and will serve to attract future recruitments. The school structure will allow for research disciplines within Life Sciences to be supported, developed and better profiled. 	<ul style="list-style-type: none"> Obtain approval from University Executive to transition from Department of Biology to School of Life Sciences. Develop Management Structure for new School. The transition from ‘Department of Biology’ into the ‘School of Life Sciences’ will occur at the same time as development of new degree programmes, increase in student FTEs and growth of research areas. Commitment of significant support from MU will be secured to facilitate expansion of staff recruitment, physical infrastructure and research facilities. 	High
S2	Strategic investment in new equipment for core facilities and other resources is	<ul style="list-style-type: none"> In order to stay competitive in modern molecular and cellular biological research, there is an urgent need to improve and expand the BRU facilities and bioanalytical core of the Biology department. 	<ul style="list-style-type: none"> Expansion of BRU and research facilities to be included as part of campus development plan 	High

	essential to support growth in Biology.	<ul style="list-style-type: none"> Currently there is limited MU level support for investment in significant research infrastructure and equipment. 	<ul style="list-style-type: none"> Agree with MU an investment plan for infrastructure and major equipment 	
S3	Support 2-3 strategic appointments at a more senior level to increase research capacity and increase critical mass. Potential to re-shape department to increase competitiveness. Loss of HoD is a major risk, so support is vital here.	<ul style="list-style-type: none"> Strategic appointments at a more senior level has the potential to increase the competitiveness of the Department/School in specific areas, especially if recruitments bring funding to the Department/School. This may also drive investment in specific infrastructure that would be of benefit to all other Department/School members. If coordinated with the growth of a School of Life Sciences. the MU Human Health Institute and the development of new denominated exit degrees, such appointments can be fully integrated into a short- to long-term strategy that will reshape the area of Life Sciences at MU. As a consequence of these appointments and growth, new management structures can be implemented and refined. MU support will be crucial to recruit the best candidates and offer an attractive environment for research. This includes the possibility to offer attractive recruitment packages, as well as liaising with funding agencies such as SFI. These appointments may also benefit the further development of the MU Human Health Research Institute and build leadership and critical mass in particular areas. It is envisaged than the internal MU promotion system will also feed positions of seniority in the department 	<ul style="list-style-type: none"> Secure support from MU for recruitment of research leaders into areas of strategic interest Explore external funding opportunities such as SFI Professor programme, Senior Academic Leadership Initiative (SALI). 	
S4	Support the departmental ambition to implement a change agenda around teaching with a view to modernise and become a market leader.	<ul style="list-style-type: none"> The Introduction of new exit degrees in Biology as part of MH201 Omnibus Science as well as new programmes such as BSc Biological and Geographical Sciences will facilitate profiling of the Department of Biology and Science at Maynooth University. The new exit degrees will improve the standard and attractiveness of MH201 and arrest the declining CAO points required for entry. The introduction of new exit degree options into MH201 may result in some competition with pre-established and successful 	<ul style="list-style-type: none"> The formation of a single committee to coordinate the pedagogy of the Department will provide a collegiate management structure and improve the decision-making processes regarding aspects of teaching and learning in the Department MU investment will be required to fund term-time University tutors for delivery of 	

		<p>Denominated Degrees offered by the Department. This needs to be carefully managed.</p> <ul style="list-style-type: none"> As part of facilitating new programmes and enhancing the practical/experimental experience for students, pilot projects on small group teaching and offerings of group-based final year research projects are proposed. 	<p>small group teaching and group-based final year research projects.</p> <ul style="list-style-type: none"> MU investment is required to expand undergraduate laboratory space to host the increase in the student intake and sandbox lab space for group projects. 	
S5	Develop a long term business plan to have a single modern building to house the School/Institute of Life Sciences to coincide with a Health Faculty	<ul style="list-style-type: none"> Whilst a single modern building that hosts all Biology and Health Research and state-of-the-art core facilities for bioanalytical purposes may be beyond current MU campus development plans it should be a major long term strategic goal of MU. 	<ul style="list-style-type: none"> Work with MU Campus Planning and Development to get commitment of new research space as part of current campus development plans 	
S6	A short-term, low cost refurbishment strategy to open laboratories and create social/networking /office space	<ul style="list-style-type: none"> There is a general need to enlarge teaching laboratory space, modernize and rearrange some research laboratories, and drastically improve social networking space within the Department of Biology. The provision of properly sized coffee rooms in both the Bioscience Building and the Callan Building is urgent and could be achieved by rearranging existing space or repurposing of larger rooms in the two buildings. The provision of open laboratories in the Callan Building would be expensive and may be more efficient for individual research groups to share existing laboratory and office space, and focus more on the funding of new equipment and improved bioanalytical core facilities. 	<ul style="list-style-type: none"> Secure location and resources to develop social space in the Callan and Biosciences building More extensive sharing of research space. 	
S8	Implement an open and accountable promotions strategy, coupled to a departmental yearly staff accountability and development review.	<ul style="list-style-type: none"> The recent announcement that yearly and biennial promotion schemes will be run from September 2019 is welcomed and timely to this recommendation. This recommendation relating to staff accountability would require prior discussion with stakeholders and would be best served by re-introduction of a MU-wide PMDS (Performance Management and Development system). 	<ul style="list-style-type: none"> MU to introduce new yearly and biennial promotion schemes Department to support and implement new MU PMDS 	

S9	Recommend stronger lines of communication between senior university staff with the Department of Biology. Also recommend a post-review progress away day in 2 years' time hosted by VPs academic and research.	<ul style="list-style-type: none"> • Currently most communication between the Department of Biology and MU University Executive takes place via the Dean of Science and Engineering. • As part of Maynooth University Guidelines for Internal Quality Reviews and evaluating post-review progress, all units are required to provide a progress report to the Quality Committee every two years on the implementation of the Quality Improvement Plan. 	<ul style="list-style-type: none"> • Head of Department will discuss the Quality Improvement Plan and resource implications with members of MU University Executive. • The Department of Biology will provide a progress report to the Quality Committee every two years on the implementation of the Quality Improvement Plan. 	
S.10	Provide a computer-assisted learning laboratory for Department of Biology Promote modernisation of Biology learning delivery (and obviate the need for more traditional laboratory space and the associated technical resources)	<ul style="list-style-type: none"> • The provision of computer-assisted learning in a single fixed location is not optimal for the Department's teaching and learning requirements and the purchase of 80-100 laptops would represent a more beneficial utilisation of resources, especially in terms of portability and flexibility. • Enhanced laptop capacity would allow for greater integration and adoption of digital Teaching and Learning approaches including the provision of virtual labs and new assessment approaches • The PRG imply the use of virtual laboratories to "obviate the need for more traditional laboratory space and the associated technical resources". Such resources will be further explored but not as a direct replacement of the wet lab experience that is an essential component of the experiential learning requirement of any modern Life Science graduate. However, virtual laboratories and CAL-labs can be excellent for improving student conceptual and procedural levels and should be explored to allow students to better prepare for their practical classes. 	<ul style="list-style-type: none"> • Secure resources to update the Department's bank of laptops. 	
S11	Further support of EDI initiatives	<ul style="list-style-type: none"> • Equality and unconscious bias training needs to be mandatory across the university 	<ul style="list-style-type: none"> • HR Equality officer to run unconscious bias training for all staff and research students in Biology (Sept/Oct 2019) 	

U1	Implement appropriate committees/working groups covering; teaching and learning improvement, research strategy, onsite operations, EDI etc. with appropriate chairs. Bring decisions to executive for discussion and implementation. Representation should involve; Early Career, Post-doctoral researchers and PhD students where appropriate (see below).	<ul style="list-style-type: none"> This recommendation emerges from one of the key priorities identified in the Self Assessment Report and is strongly embraced by the Department of Biology. These new management and operations structures will also serve the transition from MU Department of Biology to MU School of Life Sciences. 	<ul style="list-style-type: none"> Establish 5 working groups to cover: <ul style="list-style-type: none"> -Teaching and Learning -Research -Infrastructure -EDI -Outreach Working Group Chairs together with Head of Department to form Steering Management Group and report to Departmental Executive meetings. Departmental Staff meetings to have representatives from Early career researchers/postdoctoral fellows and PhD students. 	
U2	A yearly review mechanism for all staff.	<ul style="list-style-type: none"> Yearly review of staff performance would require prior discussion with stakeholders and would be best served by re-introduction of a MU-wide PMDS (Performance Management and Development system). 	<ul style="list-style-type: none"> Department to support and implement new MU PMDS 	
U3	Research income from the University should be invested more strategically rather than “shared”. Top slicing for specific initiatives is strongly recommended based on potential to realise grant income. Includes targeted PhD support.	<ul style="list-style-type: none"> Top slicing for specific initiatives would provide some strategic value to the department but current budgets do not allow for much flexibility in this regard. The Department/School would welcome additional investment from the University in research activities that would increase PhD numbers and the ability to attract funding Department/School income could be used to support PhD projects/fellowships that are externally reviewed and that have been successful. This would include the provision of funds for consumables in the context of IRC or Hume PhD scholarships. Support to be prioritized based on specific criteria, such as the lack of additional funds in the host lab. This would promote 	<ul style="list-style-type: none"> Modest top slicing of funds to support strategic and opportunistic goals of Department Department to provide co-funding support as part of new MU Doctoral Fellowships Some shared allocation of resources should be retained to support undergraduate/MSc projects. Head of Department to lobby for additional university funds to fund additional costs of running research-intensive department (not currently 	

		<p>applications by Department/School members that are not able to apply because of insufficient consumables funds associated with such schemes.</p> <ul style="list-style-type: none"> It is crucial, that some level of shared funding is maintained for all research groups in order to allow for basic research activities, including the supervision of undergraduate/MSc students in research labs. Removing such core and shared funding would have detrimental effects on the research and teaching activities of the Department/School 	<p>captured as part of resource allocation model)</p>	
U.4	<p>Continue with an innovative teaching and learning strategy to build on the current good practice. Reflect on graduate characteristics and skills. Renewed focus on presentations, writing, team working and other generic skills. Refocus on student-centred learning (including flipping the class room, use of in-lecture technology to quiz students etc.).</p>	<ul style="list-style-type: none"> The adoption of similar systems and approaches across modules and programmes will ensure that students consistently benefit from pedagogical best practices throughout their degree. Through the coordinated review of student experiences and the identification of their knowledge and skill gaps, programmes and themes can be designed and integrated across all years thus ensuring that shortcoming in our student's knowledge and skill sets are addressed in a coordinated and systematic manner. New systems and approaches will require a trial period to assess their success/potential impact. 	<ul style="list-style-type: none"> The adoption of similar systems and approaches across modules and programmes will ensure that students consistently benefit from pedagogical best practices throughout their degree. Digital systems (digital laboratories, discipline specific ebooks and resources, online questionnaires, quizzes and learning outcome assessments) will be adopted. Department to secure Investment from MU for new technologies, digital systems and software 	
U.5	<p>Delivery of laboratory practical classes needs to be reviewed. Close alignment with learning outcomes is essential and consideration of</p>	<ul style="list-style-type: none"> The Department considers the best use of virtual laboratories and CAL-labs to be complementary and supplementary rather than direct replacements of the wet lab experience. The latter is an essential component of the experiential learning requirement of any modern Life Science graduate. Virtual laboratories and CAL-labs can be excellent for improving student conceptual and procedural levels and 	<ul style="list-style-type: none"> Under the Teaching and Learning Committee a Practicals Review Group will be established to review all practical content and establish a techniques/experiential learning programme fit for purpose for the modern graduate in Life Science. 	

	<p>resources/space/time required for delivery. Mix of simulations and wet labs could be explored.</p>	<p>should be explored to allow students to better prepare for their practical classes.</p> <ul style="list-style-type: none"> Investment from the University will be required for once-off purchase of equipment for the 4th year team projects. Dedicated member of staff (academic and/or technical) to supervise the team project laboratory when in use. Term time tutors would be required to assist with the design and testing of practical contents and support the day to day running of the 4th year team project lab. 	<ul style="list-style-type: none"> Conducting a systematic review of all practicals and their content at the Programme level (across modules/years) will allow the assessment of the relevancy of current practicals, methods and techniques and address shortcomings in our students skill sets. Identify new equipment purchases to ensure students receive training in and exposure to core techniques and methodologies required by the modern life scientist Virtual Laboratories and computer assisted learning (CAL) will be adopted where appropriate, giving the MU Life Science student a modern and innovative learning experience, distinct from other Irish Universities. The provision of team laboratory projects in 4th year will reduce the number of students requiring 4th year Laboratory projects. This will require MU investment in labs space, equipment and term time University tutors 	
<p>U.6</p>	<p>Undergraduate voice must be incorporated into teaching strategy through student/staff committees, 2 per semester. Use a "You said we did" form of feedback to the student body.</p>	<ul style="list-style-type: none"> The production of a Learning Charter that defines the goals, commitments and responsibilities of both Department and student alike will produce an immediate connection between the Department and student. The undergraduate working groups will provide students with a direct channel to academics and provide a forum to highlight and discuss student issues, our pedagogical approaches, student supports etc. 	<ul style="list-style-type: none"> Produce and publish a learning charter between the Department and its students. Organise and host the Undergraduate Year Working Groups (consisting of class reps and staff for each year) Conduct systematic and regular student surveys on a range of topics including pedagogical approaches, module/programme content, student supports, student decision making etc. 	

	Use a learning charter to cement co-expectations across all years between students and staff.		<ul style="list-style-type: none"> • Report back to students annually regarding new decisions, approaches that have directly arisen from their feedback/opinion. • Provide greater opportunities for social interactions with students from all programmes 	
U.7	Review graduate attributes in teaching related to curriculum content.	<ul style="list-style-type: none"> • The definition of attributes for the Life Science Graduate will provide a framework for the Department to work towards as it develops a curriculum that ensures the integration of graduate attributes in our various programmes. • Our students will benefit from new approaches to teaching, learning and assessment that will be required for achieving graduate attributes. These will involve initiatives to improve problem solving, teamwork, creative thinking and effective communication in addition to building strong discipline specific knowledge. • Our Denominated degree students and those that choose to graduate in Biology from our Omnibus Science Programme would benefit greatly if the syllabus of other subjects was more bespoke to their chosen discipline. 	<ul style="list-style-type: none"> • Define the attributes for a Life Science graduate. • Assess the impact of other subjects on Biology student engagement. • Liaise with other Departments regarding the development of a curriculum that supports Biology requirements and better achieves the required attributes of our students. 	
U.8	Potential to expand and grow MSc courses based on excellent research-directed teaching.	<ul style="list-style-type: none"> • The newly established Teaching and Learning Committee will provide a forum for discussions regarding the MSc programme and support for the MSC Programme Coordinator. • Engagement with the Maynooth University Taught Master's Taskforce will involve interdepartmental collaboration to develop innovative taught postgraduate programmes that align with the excellent research and teaching strengths of the University. • The establishment of new MSc programmes will attract increased numbers of postgraduate and international students. • The introduction of new MSc programmes may erode the popularity of, or demand for our current offering. 	<ul style="list-style-type: none"> • Review the current MSc programme in Immunology and Global Health offering to ensure sustainability and explore options for expansion. • MSc Coordinator will join Teaching and Curriculum Group. • Engage with the Maynooth University Taught Master's Taskforce • Any new MSc programmes to be carefully scoped in terms of resource implications and commitments from Finance in order to ensure feasibility and sustainability. 	

		<ul style="list-style-type: none"> • New MSc programmes would increase the requirement for laboratory projects which are currently a major restriction to increasing numbers of student to our current programmes. • The demand of any new MSc programmes may be transitory. Therefore new programmes must be well-planned, informed by research/industry requirements and be cost-effective in the longer term. 		
U9	Consistent implementation of PhD support and monitoring/management of progress. Support for generic skills training enshrined in policy. PhD students should be provided with opportunities to contribute to teaching; however, they should be appropriately recognised.	<ul style="list-style-type: none"> • PhD education is a major priority and strength of the Department of Biology. The implementation of these recommendations will further enhance the department's significant strengths in this area. 	<ul style="list-style-type: none"> • In 2019, the annual progress review system was changed to provide additional support to PhD students. This included changes in the format of reporting and progress meetings • The current structured PhD programme includes the offering of generic skill modules, that will be further enhanced with new offerings and content. This will be done in liaison with the Graduate Studies Office. • New Moodle Postgrad Page to be single reference and information point for PhD students • Department to continue to offer opportunity for small group teaching experience in laboratory settings. • PhD student representative to attend Departmental Staff meetings 	
U10	Review of support for Postdoctoral researchers within the Department; improvements as appropriate.	<ul style="list-style-type: none"> • Postdoctoral researchers represent a highly valuable support to the department. Efforts will be made to make their voices heard and provide opportunities to play a more integral part in departmental activities. 	<ul style="list-style-type: none"> • Postdoctoral researcher representation at Departmental/School staff meetings will be implemented • The Teaching and Learning subcommittee will evaluate the feasibility to provide postdoctoral fellows with opportunities to participate in undergraduate teaching with permanent academic staff providing mentoring support. 	

U11	Maintain and extend the excellent EDI strategy.	<ul style="list-style-type: none"> • Since receiving the PRG report the Department of Biology has been awarded an Athena Swan Bronze award, the first MU department to achieve this recognition. 	<ul style="list-style-type: none"> • A Departmental Gender Equality Steering Group (GESG) has been established. Present chair will continue until new appointment in Nov 2021 to lead Silver award application in Nov 2022. • Wider/enhanced engagement with all staff (especially ATP, postdocs) will inform the Silver application. • Strategic focus groups (career development, carers, social) will be run to inform actions for ATP staff. • The department will (co)finance seminars on topics such as 'Tackling Imposter Syndrome' 	
U 12	Review Outreach strategy. Have a working group to ensure balanced participation across the department; technical staff are heavily relied upon for these activities.	<ul style="list-style-type: none"> • Whilst some technicians are heavily involved in outreach participation it must be noted that this is voluntary. Although currently not quantified it is the intention of the outreach committee to investigate how best to recognise this endeavour. Currently there is a rota system used by academic staff for allocation of outreach activities and the application of such a rota system will be explored for all staff. • Currently the department funds most internally led outreach activities. It is the department's intention to apply for external funding through SFI and other agencies through the FSE promotion committee in the first instance or a stand-alone application from the department if applicable. 	<ul style="list-style-type: none"> • Outreach activities to be captured in departmental workload allocation model, • The Department of Biology is represented on the newly formed University Faculty of Science & Engineering (FSE) Promotion Committee. This committee tracks and quantifies all biology outreach activity and will allow for an assessment and prioritisation of most impactful activities. • Department of Biology to pilot a postgraduate led summer school for undergraduate students in August 2019. The feasibility of this and other outreach activities constituting a credited module for the Maynooth structured PhD programme will be explored. • The Department will explore the potential to get support for a dedicated outreach officer, possibly across the Faculty of Science and Engineering and working 	

			closely with the Faculty Promotion Committee	
U.13	Review internationalisation strategy to improve position based on research and teaching excellence. Could involve new MSc for the international market, a health sciences summer school etc.	<ul style="list-style-type: none"> Active Erasmus/International students enhance the profile of MU and the Department both nationally and internationally. MU students also benefit greatly from the experience of studying abroad. Some challenges exist to international exchanges such as students from certain socio-economic backgrounds struggling with the costs associated with studying abroad. Furthermore, catering for international/Erasmus students can place a high administrative burden on the Department. 	<ul style="list-style-type: none"> Partnership Exchange Agreements to be finalised with Newcastle University, Edinburgh University and The University of Groningen. The University of Manchester and the University of Birmingham to be considered as potential partners. Additional modules will be evaluated for their suitability to be offered to visiting International and ERASMUS students The international dimension will be considered as part of discussions on any new MSc programmes. 	