Academic Unit Review

School of Engineering
20th September 2019

Introduction to Academic Unit Review

GMIT's Quality Assurance Framework requires a review of each academic unit prior to the programmatic review of programmes within that unit. The review of academic units focuses on the performance of the academic unit since the last review and involves an environmental review and a self-evaluation identifying the strengths and weaknesses of the unit and plans to deal with the opportunities and challenges facing it. The findings from the review of academic units, will feed into the programmatic review process. The period covered by this academic unit review is 2013/14 to 2017/18. The programmes in the School of Engineering will undergo Programmatic Review in 2019/20.

Terms of Reference

The terms of reference for the review process is outlined below. The review process considered the following:

• Organisation and management of the Academic Unit: Resources, roles and reporting structures shall be evaluated to determine whether they are fit for purpose, viable and support the activities and role of the Academic Unit. Standard operating procedures shall be reviewed and evaluated with any gaps identified and addressed. Staff development shall also be evaluated and the importance of quality, quality assurance and enhancement in the Academic Unit culture shall be evaluated.
• Academic Units and services supporting internal and external stakeholders: Each Academic Unit will describe the aims and objectives of the Academic Unit and determine and detail the user experience of the Academic Unit, both internal and external.
• Programmes: Each Academic Units programme portfolio will be considered, in addition to issues surrounding programme development, programme design, programme management (to include programme retirement) and programme information.
• Student Lifecycle: The role of the Academic Unit will be considered in relation to the management of the student throughout the student lifecycle including transition in and out, and student engagement and retention.
• Evidence based decision making: The decision-making process utilised by the Academic Unit shall be evaluated, information gathered and stored shall be reviewed, the information used to make decisions shall be identified and the quality and source of information shall be reviewed.
• Institute wide engagement: The Academic Unit's contribution to the Institute's function shall be reviewed to include items such as participation in GMIT committees, reviews etc. Each Academic Unit shall also detail how it engages with relevant external agencies and its contribution to external bodies.
• Integration of all Academic Unit users: Each Academic Unit shall review how it works with centralised functions e.g. Lifelong Learning, Research Office etc.
• Communication and information systems: Internal communication systems within each Academic Unit and between the Academic Unit and other academic units, departments, management structures and other Functional Unit's shall be reviewed. Information management systems and communication tools shall be reviewed to determine whether they are fit for purpose. Each Academic Unit shall ensure that they collect, analyse and use relevant data.
• Quality assurance: Compliance with GMIT's Quality Assurance Framework (QAF) and institute policies shall be determined.
• Strategic plan for the Academic Unit: Each Academic Unit shall develop and detail their strategic plan and evaluate its alignment with the GMIT Strategic Plan 2018-2023 and its implementation targets.

Overview of the School of Engineering

The School of Engineering is the second largest academic unit within GMIT with 1,450 students enrolled on a range of craft, Undergraduate and Postgraduate programmes in 2017-18. In that year the School admitted 353 new full-time undergraduate students.

The School of Engineering's vision is to offer professional programmes of choice for all potential learners who wish to develop and further their professional careers as technicians, engineers, technologists and managers. In achieving this vision, the School of Engineering aims to:

1. Enhance the individual experience by providing learners with the knowledge and competencies to initiate, develop and sustain their careers as engineering, technological and technical specialists.
2. Build a community by promoting and fostering the scholarship of staff and students, that informs the teaching process and the curriculum, and promotes innovation and technology transfer.
3. Deliver regional impact using its programmes and projects to support and lead the development of communities and organisations in the region.

The School of Engineering consists of three departments, each of which is comprised of a Head of Department and complements of academic and support staff. The Departments in the School of Engineering are:

- Department of Building and Civil Engineering
- Department of Electronic and Electrical Engineering
- Department of Mechanical and Industrial Engineering

The School of Engineering has introduced many new programmes during the review period. The period has been characterised by the development of Ab Initio level 8 programmes, the development of an industry targeted blended Higher Diploma programme in Building Information Modelling, the introduction of a common entry point for Mechanical Engineering as well as an expansion in the range of programmes in that discipline. The School led out on GMIT's first 'new apprenticeship' programme with the approval of the Higher Certificate and BEng in Manufacturing Engineering. A number of programmes were also discontinued or replaced.

The School of Engineering has an array of external engagements related to civic engagement, community engagement, engagement with industry and with professional bodies. Industry feedback informs programme delivery and development. The School has also been successful in attracting funding for research projects in the fields of biomedical, energy, product design and software.

Review Process

During 2018/19 the School undertook a self-review culminating in the production of a Self-Evaluation Report. This process involved establishing Thematic Review Groups within the School who undertook research, consultation and reflection resulting in recommendations on the following topics:

- Mathematics
- Common Entry
- Teaching, Learning and Assessment
- Internationalisation
- Work-based Learning
- Employability
- Research and Innovation

- External Engagement
- Facilities Investment and Management
- Flexible Learning

In addition, a self-evaluation report was completed examining programme development, programme design, programme management strategies, programme performance, external engagement, internal engagement, internationalisation, RDI, quality assurance, human resources and staff development, and facilities.

The Self-Evaluation Report was submitted to a Peer Review Panel who visited the Institute on 20th September. The panel members were:
- **Professor Joseph Walsh**, Head of School of Science, Technology, Engineering and Mathematics, IT Tralee
- **Dr Avril Behan,** Head of School of Multidisciplinary Technologies, Technological University Dublin
- **Dr Paul O'Leary,** Head of Quality Promotion, Waterford Institute of Technology
- **Dr Marcus Keane**, Civil Engineering Lecturer, NUI Galway
- **Mr Ted Curran,** Software Development Director, CISCO (Industry Representative)
- **Mr Stephen Pierce**, EMEA Project Coordinator, Working for CBRE at Google (Graduate Representative)
- **Ms Carmel Brennan** (Secretary), Assistant Registrar (Quality), GMIT

The agenda for the panel visit is outlined in Appendix A.

The panel met with the following individuals/groups:
- School of Engineering Management Team
- Programme Chairs
- School of Engineering Staff
- School of Engineering Students

Further details of the staff and students who met with the review panel are available in Appendices B and C.

Findings of the External Peer Panel

The main output from the Self Evaluation Report is a five-year Strategic Plan for the School of Engineering. While the peer review panel were generally satisfied with its appropriateness, it is felt that it needs to be framed more strongly in the context of the Institute's ambition to become a Technological University. As such, it should reference how the School will contribute towards meeting both the quantitative and qualitative metrics required to become a Technological University.

Based on the documentation provided and the visit to GMIT, the panel has made several commendations (5) and recommendations (15) as outlined below.

Commendations:

1. The level of research and self-reflection undertaken by the School of Engineering was evident in the documentation which was provided to the review panel. The Self Evaluation Report and the Thematic Review Group Reports were very clear and comprehensive. The panel were very impressed with the transparency and openness of the documentation and the willingness of the School to clearly identify areas of weakness and where improvement was required.
2. Overall the panel concluded that the School of Engineering is well run and effective and is efficient in meeting its objectives. It was obvious from meeting management, staff and students that the ethos of the School is student centred and staff are strongly focussed on the best interests of students.

3. The Peer Assisted Learning (PAL) student mentorship programme, an initiative to aid student transition and was welcomed by the panel whilst also viewed positively by the students that the panel met.
4. The blended Higher Diploma in Building Information Management is both innovative and responsive to the needs of industry, a fact recognised by the many awards it has achieved.
5. The panel commended staff on their production of quality graduates given the challenging environment they operate in following a period of under-investment.

Conditions:

None

Recommendations:

1. The panel strongly endorse the School of Engineering objective to 'Upgrade, extend and maintain facilities and equipment in the School of Engineering to support high quality teaching and facilitate teaching innovation in alignment with the ethos of School of Engineering programmes'. Due to the general under investment in higher education, existing facilities within the School of Engineering do not in many instances support a positive student experience. Failure to act to remediate this may result in difficulty attaining Technological University status and maintaining ISSE scores.
2. Future development in the postgraduate space (e.g. BIM, Civil Engineering) should have regard to the TU criteria for research masters.
3. Consider aligning the work of GMed Tech with relevant SFI research centres and CRT training centres with a view to meeting Technological University research postgraduate numbers criteria.
4. Consider introducing a resource allocation model to promote further engagement in research similar to that which is offered to drive innovative Teaching and Learning initiatives.
5. Further policies, procedures and supports are required in relation to online and blended learning to enable and support staff and students engaging in these types of programmes.
6. Programmatic Reviews should consider changing the first two stages of programmes to year-long where this is not already the case, as an aid to improve student transition and retention.
7. A minimum attendance threshold should be considered for laboratories and practical classes, to ensure that students meet the requirements of modules and become the practical graduates that GMIT is known for.
8. Every programme in the School of Engineering should have a 30 ECTS placement with a duration of between 6 and 8 months, reflecting the needs of industry and students.
9. There should be clarity on best practice in relation to processes and procedures relating to work placement, and these should be adopted throughout the School.
10. Appropriate resourcing should be put in place to manage the administration of work placements whilst maintaining the relationship between academics and industry contacts.
11. A centralised database should be maintained of contacts made with industry re placement to avoid duplication of contact and ensuring that there is a consistent approach to industry engagement.
12. All Programme Boards should consider as part of the review of their programmes whether students are being over-assessed and if so, rationalise same. A programme rather than module approach to assessment should be used by all Programme Boards.
13. Consider expanding PAL (Peer Assisted Learning) to other stages of programmes to support students throughout their studies.
14. Reconsider scheduling the services of the Maths Learning Centre to ensure that it works with students' timetables. This may mean scheduling outside the normal working day in some instances.
15. Ensure that the loop is closed on quality assurance activities e.g. staff should receive feedback on actions taken in relation to annual programme board reports, or why action was not taken.

Appendix A

Agenda for Panel Visit

Thursday 19ᵗʰ September 2019

Time	Activity	Present	Venue
6pm	Private Meeting	Academic Unit Review Panel	Boardroom

Friday 20ᵗʰ September 2019

Time	Activity	Present	Venue
9am	Meeting	President, Head of School of Engineering, Head of Department of Building and Civil Engineering, Head of Department of Electronics Engineering and Head of Department of Mechanical and Industrial Engineering	Boardroom
9.45am	Strategic Review	School of Engineering Management Team, Senior Lecturers, Programme Chairs	Boardroom
11.15am	Coffee Break	School of Engineering Management Team, Senior Lecturers, Programme Chairs	Boardroom
11.30am	Tour of Facilities	Tour for Academic Unit Review Panel provided by Heads of Department	
12.30pm	Working Lunch	Academic Unit Review Panel	Boardroom
2pm	Meeting with Staff	School of Engineering Staff	940
2.45pm	Meeting with Students	Representatives from School of Engineering Student Cohort	Boardroom
3.30pm	Private Meeting	Academic Unit Review Panel	Boardroom
4.30pm	Preliminary Feedback	Academic Unit Review Panel, President, Head of School of Engineering, Head of Department of Building and Civil Engineering, Head of Department of Electronics Engineering and Head of Department of Mechanical and Industrial Engineering	Boardroom

Appendix B

School of Engineering Staff Who Met with External Peer Panel

School Management Team

Staff Name	Department	Position
Gerard Mac Michael	School of Engineering	Head of School
Mary Rogers	Building and Civil Engineering	Head of Department
Carine Gachon	Mechanical and Industrial Engineering	Head of Department
Des O'Reilly	Electronic Engineering	Head of Department

Senior Lecturers

Staff Name	Department	Position
Gerard O'Donnell	Mechanical and Industrial Engineering	Senior Lecturer
John Hanahoe	Building and Civil Engineering	Senior Lecturer

Programme Chairs

Staff Name	Programme	Position
Emer Maughan	Architectural Technology	Programme Chair
Lisa Dooley	QS and Construction Economics	Programme Chair
Noelle Jones	Civil Engineering	Programme Chair
John Hanahoe	Construction Management	Programme Chair
Gerard Nicholson	Building Information Management	Programme Chair
Michelle Lynch	Software and Electronic Engineering	Programme Chair
Aurora Dimache	Common Entry Engineering	Programme Chair
Oliver Mulryan	Agricultural Engineering and Mechanical Engineering L7	Programme Chair
Liam Morris	Biomedical Engineering	Programme Chair
Willie Geraghty	Energy Engineering	Programme Chair

Gerard O'Donnell	Mechanical Engineering L8	Programme Chair
Padraig Audley	Manufacturing Engineering Design	Programme Chair
Paul O'dowd	Manufacturing Engineering (Apprenticeship)	Programme Chair
Martin Conneely	Manufacturing Engineering Add-on (Part-time)	Programme Chair

Manufacturing Engineering Add-On Part-time   Martin Conneely

Engineering Staff

Staff Name	Department	Position
Patrick Ryan	Building and Civil Engineering	Lecturer
Mark Deegan	Building and Civil Engineering	Technician
Jimmy Fahy	Building and Civil Engineering	Lecturer
Gerard Nicholson	Building and Civil Engineering	Lecturer
Natasha Rohan	Electronic and Electrical Engineering	Lecturer
Michael Keaney	Electronic and Electrical Engineering	Lecturer
Gabriel Farragher	Electronic and Electrical Engineering	Lecturer
Keith Raftery	Electronic and Electrical Engineering	Lecturer
Denis O'Mahoney	Mechanical and Industrial Engineering	Lecturer
Emer Cahill	Electronic and Electrical Engineering	Lecturer
Jan Gottsche	Building and Civil Engineering	Lecturer
Noelle Jones	Building and Civil Engineering	Lecturer
Catriona O'Regan	Building and Civil Engineering	Lecturer
John Hanahoe	Building and Civil Engineering	Lecturer
Andy McNamara	Building and Civil Engineering	Lecturer
Liam Morris	Mechanical and Industrial Engineering	Lecturer
PJ McAllen	Mechanical and Industrial Engineering	Lecturer
Gerard O'Donnell	Mechanical and Industrial Engineering	Lecturer
Shane Newell	Building and Civil Engineering	Lecturer

Surbhi Gautam	Building and Civil Engineering	Lecturer
Elisha McNamara	Building and Civil Engineering	Lecturer
Irene Hayden	Building and Civil Engineering	Lecturer
Aoife O'Brien	Mechanical and Industrial Engineering	Lecturer
Aurora Dimache	Mechanical and Industrial Engineering	Lecturer
Gabriel J Costello	Mechanical and Industrial Engineering	Lecturer
Paul O'Dowd	Mechanical and Industrial Engineering	Lecturer
Brian De Souza	Mechanical and Industrial Engineering	Lecturer
Thomas Lyons	Building and Civil Engineering	Lecturer
Wayne Gibbons	Building and Civil Engineering	Lecturer
Tomás Murphy	Building and Civil Engineering	Lecturer
Eddie Dunbar	Mechanical and Industrial Engineering	Lecturer
Martin Conneely	Mechanical and Industrial Engineering	Lecturer

Appendix C

School of Engineering Students Who Met with External Peer Panel

Student Name	Programme	Stage
Meaghan Connolly	Architectural Technology	3
Vincent Killeen	Civil Engineering	3
Ammar Alkadry	Civil Engineering	4
Precious Leshi	Mechanical Engineering	3
Kevin Waldron	Mechanical Engineering	4
Erik Bourke	Manufacturing Engineering (Apprenticeship)	1
Alan Connors	Biomedical Engineering	PhD
Balaji Ojofeitimi	Biomedical Engineering	PhD
Niall Kenny	Construction Management	4

Appendix D   School of Engineering Strategic Plan extracted from SER

17.0 School of Engineering - 5 Year Strategic Plan

The School of Engineering strategic plan statement is shown alongside the Institute statement in Fig. 17.0.

Vision	Institute	School of Engineering
	GMIT will provide our students with a transformative university experience, empowering our graduates to fully contribute to the social, economic and cultural betterment of society.	The School of Engineering will offer professional programmes of choice for all potential learners who wish to develop and further their professional careers as technicians, engineers, technologists and managers.
Mission	**Institute**	**School of Engineering**
	To provide students with a transformative university experience GMIT will: 1. Enable access and opportunity for a diverse student community 2. Attract, retain and support highly talented staff 3. Maintain our positive staff-student interactions 4. Invest in innovative research and applied teaching and learning 5. Collaborate with government, agencies enterprise and the community 6. Develop confident professional, knowledgeable and skilled graduates who are equipped to contribute as global citizens	To provide professional programmes of choice, the School of Engineering will: 1. Facilitate access and opportunity for all 2. Facilitate a progressive staff innovate to enhance the reputation of programmes 3. Foster student and staff partnership in the design and provision of their education 4. Provide a stimulating learning environment for students to flourish 5. Collaborate externally in the design and delivery of programmes and research projects as a partner of choice 6. Equip graduates with a professional profile directly aligned with professional and employer needs
Goals	**Institute**	**School of Engineering**
Enhancing the individual experience	We will provide our students with an unsurpassed learning experience on a high quality programme, with a professional focus and an innovative approach, in a stimulating and supportive learning environment.	The School will provide learners with the knowledge and competencies to initiate, develop and sustain their careers as engineering, technological and technical specialists.
Building a community	We are building a diverse community which thrives on excellence and, as a result, attracts talented people (staff, students and collaborators) who, in turn, will further develop the Institute.	The School will promote and foster the scholarship of staff and students, that informs the teaching process and the curriculum, and promotes innovation and technology transfer.
Delivering impact	We are determined to be regional leaders in the generation and application of knowledge through our unique multi-campus network, programmes, research, innovation and collaboration, and most importantly, our graduates.	The School will use its programmes and projects to support and lead the development of communities and organisations in the region.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.0: Institute and School of Engineering Strategic Statements 2019 - 2023

17.1 School of Engineering Strategic Plan

The Institute's Strategic Plan 2019-23, which maps the Institute goals to the Institute strategic enablers, has informed the School of Engineering Strategic Plan. This is demonstrated by linking the School of Engineering strategic objectives and concomitant actions to the strategic enablers and objectives in the Institute's plan as illustrated in Fig. 17.1.

The charts in Figs. 17.3 to 17.15 detail the School of Engineering objectives, sub-objectives and actions, all of which are intended to address the Self-Evaluation findings and recommendations as documented in the SWOT diagram in chapter 16.0. The actual timelines and success indicators, presented as indicative, will be established through prioritisation of the objectives each year. The intended impact of the School of Engineering Strategic Plan on the region is summarised in the graphic in Fig. 17.16.

No.	Institute Strategic Enabler	Institute Objective	School of Engineering Objective
1	Innovation in Teaching	Prioritise new approaches to teaching which reflect ethos of the Institute and ensure GMIT is renowned for innovation in its approach to teaching	Further enhance the student learning experience through innovative teaching approaches
2	Digital Learning	Develop a digital strategy which will support staff and students in using technology in their teaching and learning	Implement the institute's digital strategy focusing on the needs of School of Engineering staff and students
3	Collaborative Culture	Plan specific interventions which will catalyse a collaborative culture	Build-on existing collaborative experiences in the School of Engineering
4	Infrastructure and Facilities	Ensure new and upgraded facilities meet demands of our plan and provide a quality environment for our students and staff	Upgrade, extend and maintain facilities and equipment in the School of Engineering to support high quality teaching and facilitate teaching innovation in alignment with the ethos of School of Engineering programmes
5	Cross-Disciplinary Projects	Plan and develop opportunities for staff and students to work across disciplines	Plan and develop opportunities for School of Engineering staff and students to work across disciplines
6	Staff Expertise and Development	Recruit, retain and develop the best staff	Enhance the development of School of Engineering staff through continuing professional development
7	Programmes with Applied Focus	Maintain applied focus as a key strength to all programmes in the Institute	Continue to offer programmes that emphasize the applications of engineering and technological knowledge and skills which contribute to professional practice in problem-solving and design processes
8	International Programme	Develop the international dimension of the GMIT community through attracting international students and programme development	Provide a diversity of learning experiences for School of Engineering students and internationalise the curriculum
9	Coherent Research Themes	Pursue realistic research plan playing to the strengths of the Institute whilst meeting external criteria for enterprise, funding, and impact.	Enhance the scholarship of School of Engineering staff and students engaged in research that integrates with teaching, and promotes innovation and technology transfer with industry and communities in the region
10	Employability and Professional Practice	Maintain the focus on employability and develop an integrated model for professional practice in the Institute	Maintain focus on employability and professional practice that meets the needs of all stakeholders including employers and professional bodies
11	Health and Wellness	Initiate and promote a plan for health and wellness for our community of students and staff	Implement the Institute's plan for Health and Wellness with concrete actions for School of Engineering staff and students
12	Diversity, Equality and Inclusion	Foster an inclusive community, where all staff and students feel and have equal opportunity to succeed.	Provide an inclusive experience and equal opportunity for all School of Engineering students and staff to achieve
13	Community and Outreach Programmes	Develop an integrated community plan, encompassing all areas of engagement and	Develop a plan to strengthen and support community engagement actions of the School

Source: GMIT Strategic Plan 2019-2323   Institute Strategic Enabler priorities for 2019

Fig. 17.1: Aligning the Institute and School of Engineering Strategic Plans 2019 - 2023

It is intended that the School of Engineering strategic plan is reviewed each year to monitor the performance of implementation. This review will also consider the priorities for the following two years as an acknowledgement that it is only realistic to implement 4 or 5 strategic objectives every few years. These priorities will be the main focus of operations and resource planning during this period. The priorities for 2019/2021 are highlighted in Fig. 17.2.

The non-prioritised objectives will not be ignored. Some of the sub-objectives are already embedded in the operations of the School of Engineering and some will be operationalised to support priority objectives as cited in Fig. 17.2.

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Priority	Institute Strategic Enabler	School of Engineering Objective	Comment
1	Infrastructure and Facilities	Upgrade, extend and maintain facilities and equipment in the School of Engineering to support high quality teaching and facilitate teaching innovation in alignment with the ethos of School of Engineering programmes	This priority will extend beyond the life of the strategic plan. It is ranked first as enhanced facilities contribute significantly to or are an enabler for the other objectives in the strategic plan.
2	Innovation in Teaching	Further enhance the student learning experience through innovative teaching approaches	This objective will require the implementation of certain sub-objectives in support, viz. Digital Learning, Cross-Disciplinary Projects, Collaborative Culture, and Employability and Professional Practice.
3	Programmes with Applied Focus	Continue to offer programmes that emphasize the applications of engineering and technological knowledge and skills which contribute to professional practice in problem-solving and design processes	
4	Staff Expertise and Development	Enhance the development of School of Engineering staff through continuing professional development	This objective will significantly underpin the Innovation in Teaching priority.
5	Coherent Research Themes	Enhance the scholarship of School of Engineering staff and students engaged in research that integrates with teaching, and promotes innovation and technology transfer with industry and communities in the region	

Source: GMIT Strategic Plan 2019-2323   Institute Strategic Enabler priorities for 2019

Fig. 17.2: School of Engineering Strategic Plan Priorities for 2019-2021

The School of Engineering strategic priorities are not in complete alignment with Institute priorities as the specific development needs of the Institute have been developed for the Institute profile as a whole and not for that of the School of Engineering alone.

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
1. Innovation in Teaching	Further enhance students' learning experience through innovative teaching approaches	**1.** Staff devise plan for innovation on Engineering and Technology programmes that identifies extant good practice and new opportunities.	Establish group with representatives from PBs to prepare plan, host a workshop to consult staff and launch plan.	2021	Implementation of plan in conjunction with the Institute's programme design framework.
		2. Review School of Engineering Teaching & Learning Initiative.	Review 1st cycle and run a 2nd cycle of the Teaching & Learning Initiative that is informed by the review and is fully resourced.	2020/21	Implementation of 2nd cycle of Teaching & Learning Initiative.
		3. Facilitate staff acquire Teaching & Learning qualifications.	Provide time and other supports for staff whose T & L programme assessments involve improving the learning performance of their students or those on the programmes that they teach on.	2021	Increased number of staff with T & L qualifications.
			Provide support for staff to attend CED-provided short courses, workshops and forums.	2020	Increased attendance at CED facilitated events.
		4. Promote and facilitate the exchange of teaching and learning experiences.	Establish group of PB Chairs/members to annually exchange PB innovations and propose new actions.	2020	Group established and working.
			Host internal annual Teaching & Learning workshop for staff in School of Engineering	2021	Host workshop.
			Host national biannual Engineering and Technology Education conference (alternate with International Engineering & Technology Education).	2022	Host conference.
			Implement biannual awards for programmes with the most effective Student Retention innovations or plan, and T & L Innovations.	2020-2022	Make awards.
		5. Enhance the communications, creativity, innovation and inventiveness of students.	Extend annual exhibitions of project work to all programmes and invite practitioners and industry.	2020	Mount annual programme exhibitions of student work and present awards.
		6. Develop students as partners with staff in their education.	Facilitate students develop personal ePortfolios and link to Next Step Module.	2020	Incorporated into programmatic reviews.
			Establish School group to review National Student Survey data and make recommendations.	2020	Established as an input into annual programme amendments.
			Invigorate student membership on PBs.	2020	Student input on programme design and delivery.
			Extend PASS module to all programmes.	2020	Incorporated into programmatic reviews.
			Enhance the links between the Maths Learning Centre actions and the student's mathematics modules.	2020	Incorporated into programmatic reviews. Increased use of Maths Learning Centre.

Fig. 17.3: School of Engineering Strategic Plan 2019 - 2023: 1. Innovation in Teaching

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
2. Digital Learning	Implement the institute's digital strategy focusing on the needs of School of Engineering staff and students	**1.** Participate on the Institute's On-Line Project Group.	Nominate a School of Engineering lecturer to the On-Line Project Group as link to School Executive.	2019	The development of a policy framework and environment that supports staff and students in their teaching and learning.
		2. Develop a School of Engineering strategy for digital learning.	Establish School of Engineering digital technology policy group with membership from all programme boards.	2019-20	5 year rolling Digital Plan for School of Engineering.
			Identify target markets and categories of students whose access and learning would be enhanced by the digital design and delivery of existing and new module elements/modules/programmes.	2019-20	Digital technology map of students and markets for programmes.
			Use digital technology map to select programme digital projects over the next 5 years on a rolling basis.	2020-2014	5-year rolling digital technology delivery plan of School of Engineering programmes.
		3. Provide CPD, training and education for staff and facilitate Institute support/resources availability.	Encourage staff to upgrade their digital learning pedagogy and technology skills and expertise through the institute's CPD funding, CED programmes, the qualifications fund, instructional design resources, IT support resources, and quality assurance resources.	2020-2022	Development and design of existing and new teaching and learning resources for full-time, dual and flexible learners.
		4. Include new digital programmes in Academic Plan. Include digital teaching and learning in Dept. performance.	Deliver new digital modules/programmes.	2020-23	Delivery of School of Engineering programmes to new target categories of students. Enhanced learning of students. New target categories of students registered on programmes.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.4: School of Engineering Strategic Plan 2019 - 2023: 2. Digital Learning

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
3. Collaborative Culture	Build-on existing collaborative experiences in the School of Engineering	**1.** Improve and enhance communications for staff and students in the School of Engineering.	Further develop School and Dept. communications using business communications and productivity tools (SharePoint sites as document repository and Outlook for time and diary management).	2019-2021	All School Executive and PB members use SharePoint and Outlook for business.
			Facilitate regular School and Dept. and PB meetings.	2019-2020	Annual schedule of School Executive, School, Dept., PB meetings.
			Assign responsibilities for maintaining dynamic website pages.	2020-2023	Improved dissemination of information on School of Engineering programmes and research projects.
			Establish annual internal audit of effectiveness of communications.	2020	Enhanced communications.
		2. Collaborate with the Regional Skills Forum and other industry groups to develop programmes that upgrade company staff qualifications and skills for industry consortia.	Establish programme design groups with external representation from industry consortium and other groups.	2019	Delivery of programmes for consortia.
		3. Recognise and acknowledge specialist expertise that lies outside School of Engineering and Depts.	Invite specialists external to the School of Engineering to participate on PBs and programme design groups.	2020	Augmented PBs and programmes design groups.
		4. Participate on TU-inspired projects.	Second staff on collaborative projects designed to further TU preparation.	2020	School of Engineering staff participating in TU/CUA projects.
		5. Extend partner collaboration beyond project/programme.	Identify other collaborative opportunities for existing partners where appropriate.	2020	Layers of collaboration with partners outside the School of Engineering.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.5: School of Engineering Strategic Plan 2019 - 2023: 3. Collaborative Culture

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
4. Infrastructure and Facilities	Upgrade, extend and maintain facilities and equipment in the School of Engineering to support high quality teaching and facilitate teaching innovation in alignment with the ethos of School of Engineering programmes	**1.** Renew Engineering facilities and equipment to best-in-class standards.	Develop a capital investment plan to remedy the Institute's inadequate investment over the last 15 years. The plan will be a rolling 5 year plan that will facilitate financial planning by the Institute and take advantage of funding opportunities as they arise.	2019-24	The Institute incorporates the plan into the master campus development plan. The Institute prioritises the investment in School of Engineering facilities as per the plan.
		2. Labs. accommodate sharing across Depts., are multipurpose and flexible in use, where feasible.	Develop policy for shared and multi-function labs. that maintain lab. housekeeping and H & S standards. Implement policy decisions with consultation and transparency.	2020	Use of policy in annual implementation planning of the capital investment plan.
		3. Implement annual equipment and facilities maintenance planning.	Develop schedule of maintenance actions annually at School and Dept. level.	2020	Use of policy in annual implementation planning and delineation between Engineering Depts. and Buildings & Estates.
		4. Make review of H & S in specialist and general facilities an ingrained habit.	Develop schedule of H & S actions annually at School and Dept. level.	2019	H & S committees meet to prepare inputs to schedule of action to submit for funding annually.
		5. Participate in the Institute's ICT Strategy to ensure ICT infrastructure and support for Engineering programmes and actions.	Develop annual schedule of ICT provision and resourcing at School and Dept. level.	2020	Annual dialogue with ICT Services and submission of Engineering ICT resource funding requirements.
		6. Develop a transparent recurrent budget allocation model.	Annual recurrent budget allocation consultation and allocation.	2019	Implementation of transparent recurrent budget allocation model.
		7. Develop labs. against internationally recognised standards of fitting and use.	Research appropriate international lab. standards.	2020	Prepare lab. refurbishment plans using standards.
		8. Cost the School of Engineering Strategic Plan	Plan the Institute-funded and School recurrent budget-funded elements.	2019	Strategic plan is funded.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.6: School of Engineering Strategic Plan 2019 - 2023: 4. Infrastructure and Facilities

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
5. Cross Disciplinary Culture	Plan and develop opportunities for School of Engineering staff and students to work across disciplines	1. Encourage School of Engineering staff to participate on Academic Council, Sports, Student Services and Strategic Groups that work across the Institute.	Promote cross-Institute working among staff.	2020-23	More School of Engineering staff work across the Institute.
		2. Review the Institute's cross-disciplinary framework	Facilitate PBs embed cross-disciplinary modules from the Institute's cross-disciplinary framework where appropriate.	2020-23	Embedded cross-disciplinary modules on APSs.
		3. Enhance programme design and development by using the cross-disciplinary resources of the Centre for Graduate and Professional Development (CPD) where possible.	PBs embed the cross-disciplinary resources (e.g. instructional designer) for programme review and development.	2020-23	PBs work with central cross-disciplinary resources.
			Programme design groups employ the CPD resources to design new programmes.	2020-23	Programme design groups constituted from cross-disciplines.
		4. Devise new programmes that are cross-disciplinary.	Augment existing expertise on programme design groups by inviting staff with other disciplines to participate.	2019-23	Discipline diversity on programme design groups.
			School Executive plans the delivery of the cross-disciplinary programme with other School Executive where necessary.	2019-23	Deliver new cross-disciplinary programmes.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.7: School of Engineering Strategic Plan 2019 - 2023: 5. Cross Disciplinary Culture

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
6. Staff Expertise and Development	Enhance the development of School of Engineering staff through continuing professional development	1. Enhance leadership and management of performance in the School of Engineering.	Provide leadership training for School management, administrative and academic staff.	2021	Enhanced leadership of staff.
			Facilitate PMDS processes to establish Dept. performance goals and plans.	2020	Annual Dept. goals and plans.
			Align Dept. plans to School strategic plan, academic plan and resourcing plan.	2020	Annual review of School Strategic plans, Dept. plans, academic and resourcing plan.
			Prepare annual plan/schedule of staff engagement with School, Dept. and other plans and programmes.	2020	Improved School and Dept. performance.
			Encourage leaders in School of Engineering to participate in mentoring programme.	2021	School of Engineering staff mentor staff in new roles.
		2. Prepare realistic rolling annual staff development plan to enhance staff performance.	Provide training in PMDS processes for HoS/HoDs.	2019-2021	Trained School Executive.
			Facilitate Depts. use PMDS processes to establish staff goals and plans using competency framework tools.	2019	Schedule of staff goals and plans at Dept. level.
			Prepare schedule of staff development at Dept. level in categories: qualifications upgrading, CPD (cognate, T & L).	2021	Staff participation in focused staff development programmes/projects.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.8: School of Engineering Strategic Plan 2019 - 2023: 6. Staff Expertise and Development

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
7. Programmes with an Applied Focus	Continue to offer programmes that emphasize the applications of engineering, technological and built environment knowledge and skills which contribute to professional practice in problem-solving and design processes	**1.** Develop apprenticeship programmes that meet the National Apprentice Council (NAC) criteria for approval and funding.	Identify market opportunity and industry leader to prepare NAC application.	2020-2023	NAC approved apprenticeship programme.
			Deliver apprenticeship programme as coordinating partner.	2021-2024	Fully resourced programme delivered.
		2. Develop L8 (post experience) and L9 taught programmes that build on u/g competences by providing specialist engineering and technology expertise and competences to employees.	Establish programme design groups to prepare project plan.	2019- 2024	Programme design groups develop programmes for validation.
			Develop programmes in accordance with this strategic plan and Institute programme design framework.	2020-2024	New programmes with new student targets.
		3. Further develop student creativity, innovation, and inventiveness in problem-solving and design.	Imbed the skills and competences in module learning outcomes. Assess and acknowledge performance with digital badges and prizes.	2019-20	Imbedded skills and competences in module learning outcomes arising from programmatic reviews.
		4. Maintain and enhance the proportion of active learning on programmes that is practical, and professionally and applications oriented.	PBs review programmes/modules after student/ industry consultations.		Programmatic reviews completed.
			PBs prepare schedule of new technologies for acquisition and inclusion on Academic plan resources.	2019-2021	New technologies purchased and commissioned.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.9: School of Engineering Strategic Plan 2019 - 2023: 7. Programmes with an Applied Focus

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
8. Internationa	Provide a diversity of learning experiences for School of Engineering students and internationalise the curriculum	**1.** Develop an International Student exchange plan for the School of Engineering that identifies and secures HEI partnerships for student and staff exchange.	In consultation with the International function, establish a series of International partnerships with selected HEIs in Europe, North America and Asia, whose programmes and ethos aligns with those of the School of Engineering.	2020	Launch of School of Engineering International Plan with targeted HEIs.
			Plan a biannual workshop on International Engineering & Technology Education with HEI partners.	2023	Host the International Engineering & Technology Education
		2. Promote international opportunities to students as a constituent part of their employability.	Assign promotional, preparation and support roles to a lecturer group of staff who have visited partner HEIs.	2021	Target number exchanges of School of Engineering students and HEI partners studying abroad or taking work-based learning.
		3. Devise a preparatory and support programme for students who opt for study or work-based learning aboard.	Establish a cross-School and International function group to design preparatory programme.	2021	Implement preparatory programme.
		4. Develop an International plan for the School of Engineering that identifies capacity and entry routes for full-international fee paying students.	Devise an incentivisation plan and support structure for Depts. which are successful recruiting international students.	2021	Implement incentivisation plan and support structure.
		5. Internationalise the curriculum of School of Engineering programmes.	Programme Boards embed international themes as part of programmatic reviews.	2020	International themes developed in programmes for the next 5 years.
			The option of an alternative assessment to the final year Project or Dissertation will be considered in programme design for International students.	2020	Elective modules for International students in award years.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.10: School of Engineering Strategic Plan 2019 - 2023: 8. International

Institute	Engineering	Engineering Sub Objective	Action Required	Indicative	Success Indicators

Institute Enabler Objective	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
9. Coherent Research Themes	Enhance the scholarship of School of Engineering staff and students engaged in research that integrates with teaching, and promotes innovation and technology transfer with industry and	1. Develop a rolling 5 year research plan that includes performance targets associated with TU criteria and plans for the development of research, research groups and the integration of teaching and research.	Rolling quarterly/annual consultations with the R & I function, research groups, research active, research capable lecturers, iHub staff, PBs and others.	2020	Implementation of the School of Engineering Research and Innovation Plan.
			Include scholarship and research performance in departmental and lecturer goals and development plans.	2022	Inclusion in departmental and lecturer goals and development plans.
		2. Review delegation by QQI to GMIT of Level 10 programmes in the School of Engineering.	Prepare Level 10 delegation submission to QQI for Built Environment programmes and others	2021	Delegated authority in an additional discipline.
		3. Provide realistic support for active researchers.	Assign time to researchers for time-intensive activities, such as grant writing, where the return for the School and research team is high.	2021	Researcher time allocation model and resources.
			Encourage the development of coherent research teams by providing research labs. for teams that have coherent research plans, e.g. for iSET (sustainable energy) and construction (lean construction and process improvement).	2022	Team plans developed and approved.
			Create more alignment between researchers' teaching modules and their teaching timetables with their research activities	2021	Aligned lecturer timetables.
			Annual consultation on academic plan with researchers and R & I function.	2020	Schedule of consultative meetings.

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4. Encourage new research entrants among lecturers.	Aspirant and inexperienced researchers should be mentored by experienced researchers.	2019	New entrants to research have mentors assigned.
	A portion of the Institute's IP income and research income overhead should be used by the Research & Innovation Office and the School to seed fund master's students (scholarships) and new researchers as supervisors (teaching hours relief)	2020	Funding assigned to School.
	Encourage lecturers to undertake higher research degrees with Institute support.	2019	Increase in lecturer higher degree registrations and completions.
5. Invest in research infrastructure.	Accommodate MET/GMedTech in permanent buildings near the engineering teaching labs.	2022	New facilities refurbished to meet the needs of MET.

Fig. 17.11: School of Engineering Strategic Plan 2019 - 2023: 9. Coherent Research Themes

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
9. Coherent Research Themes	Enhance the scholarship of School of Engineering staff and students engaged in research that integrates with teaching, and promotes innovation and technology transfer with industry and communities in	**6.** Strengthen the relationship between research and teaching.	PBs will review the relationship of their programmes with research activities each year.	2020	Annual PB reports with review included.
			Each PB will produce a Teaching and Research Matrix to inform discussion and monitor the relationship.	2020	Annual PB reports with matrix included.
			Identify research funding opportunities to target final year u/g students.	2020	
			Develop cognate trunks of L7, L8, L9 and L10 programmes in the School's Academic plan to promote progression and create cadres of P/G students.	2019	New programmes validated and delivered.
		7. Strengthen the relationship between the School of Engineering and the iHubs.	Promote the work of researchers and lecturers who have work-based learning students, final year student projects and research projects with iHub clients.	2020	Information included on promotional literature and website; active press and social media use.
		8. Promote research achievements vigorously.	Promotion research projects and achievements externally and to u/g students.	2020	Annual exhibitions of p/g work.

Fig. 17.11: School of Engineering Strategic Plan 2019 - 2023 continued: 9. Coherent Research Themes

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
10. Employability and Professional Practice	Maintain focus on employability and professional practice that meets the needs of all stakeholders including employers and professional bodies	**1.** Publish the School of Engineering Employability statement.	Employability statement authored by cross-School group of academic staff.	2020	Completed Employability statement forwarded to Office of Registrar.
		2. School of Engineering programmes develop students' transferable skills - Personal Administrative Skills, Communication Skills, Time Management, Organisation Teamwork, Critical & Analytical Thinking, IT Skills, Numeracy Skills, Business Management Knowledge.	All students are required to take a substantial WBL module as part of the work of the programmatic review; an alternative set of credits is available for those who do not find work-placements.	2020	Incorporated into programme as part of programmatic review approved by AC.
			Resource the 'Next Step' module, pioneered in Engineering to prepare students for WBL.	2021	Module placed on programme APSs.
			Guest lecturer programmes, company visits, employer workshops, professional body sessions, and site visits are planned for each programme.	2020	Incorporated into programme as part of programmatic review approved by AC.
			Group Projects, which foster team working and interpersonal skills, are an integral part of each programme.	2020	Incorporated into programme as part of programmatic review approved by AC.
			Cross programme multi-disciplinary teamwork will be considered by PBs.	2020	Incorporated into programme as part of programmatic review approved by AC.
			Students will have many opportunities to write professional standard reports and hone their presentations skills.	2020	Incorporated into programme as part of programmatic review approved by AC.
		3. School of Engineering programmes have relevant professional body accreditation.	PBs will review the accreditation status of their programmes using the criteria of competence, quality assurance, employability and development.	2020	Recommendations in programmatic review reports.
				2021	Accreditation application and evaluation visit scheduled.
			Professional bodies that accredit School of Engineering programmes are invited annually to promote the benefits of student membership to students and provide student prizes.	2020	Professional Body sessions for students organised. Prizes awarded and presented by Professional Bodies.
			Professional bodies that accredit School programmes are encouraged to host their regional meetings and CPD events in GMIT.	2020	Programme of professional body meetings and events in GMIT.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.12: School of Engineering Strategic Plan 2019 - 2023: 10. Employability and Professional Practice

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
11. Health and Wellness	Implement the Institute's plan for Health and Wellness with concrete actions for School of Engineering staff and students	**1.** Facilitate students and staff engage with the Institute's Healthy Campus Initiative and other Institute-wide health and wellness programmes.	Establish cross School group to review the Institute's Healthy Campus Initiative and make recommendations for implementation.	2021	Students and staff report that they are more resilient to stressors.
		2. Ensure that the student and staff timetables facilitate healthy study- and work-life balance respectively.	HoDs review timetables to ensure that student and staff timetables are balanced across the week among other criteria.	2021	Implementation of amended programmes arising from the programmatic reviews.
			PBs review student workloads across weeks and terms as part of programme development.	2020	Incorporated into programme as part of programmatic review approved by AC.
		3. Provide health and wellness criteria to inform the specifications of the refurbishment and repurposing of specialist, general and office spaces in the School of Engineering.	The School Executive facilitates the establishment of health and wellness criteria for the space specification teams and facilitators, and promotes the concept with Buildings and Estates.	2020	Spaces that respect student and staff needs for health and wellness.
		4. Design engineering, technology and management projects/modules which promote and inform students of the principles of health and wellness.	PBs research health and wellness principles and design modules/projects.	2021	New CA projects/modules on APSs.
		5. Improve the communications and ways of working between School of Engineering staff and Student Services.	Review protocols and procedures with staff consultation.	2021	Staff and students benefit from improved communications.
		6. Acknowledge and celebrate the success of students and staff.	Organise appropriate events, promotions and communications.	2019	Events, promotions and communications executed.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.13: School of Engineering Strategic Plan 2019 - 2023: 11. Health and Wellness

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
12. Diversity, Equality and Inclusion	Provide an inclusive experience and equal opportunity for all School of Engineering students and staff to achieve	1. Promote diversity as aid to improved decision-making on all School of Engineering decision-making bodies.	Ensure all decision-making groups in School of Engineering are as diverse as possible.	2019	Diverse groups established.
		2. Ensure that students who gain admission to School of Engineering programmes through Institute access policies for FE students and disadvantaged groups are realistically prepared for and supported with their learning.	Review performance of students who enter programmes via diverse pathways and provide learning supports where appropriate.	2019-20	Review concluded during programmatic reviews and recommendations adopted and monitored.
		3. Increase the numbers of student from under-represented groups on School of Engineering programmes.	Implement Institute access plan and participate in proposals for funding projects.	2020	Implement funded projects/ programmes.
		4. Facilitate and support staff to design, deliver and participate in programmes that aim to encourage more females and other under-represented groups choose School of Engineering programmes.	Support staff participate with local and national outreach projects designed to attract female/ under-represented students onto School of Engineering programmes.	2019	Existing projects reviewed and new projects supported.
		5. Use diversity, equality and inclusion criteria to inform the specifications of the refurbishment and repurposing of specialist, general and office spaces in the School of Engineering.	Promote the objective with Buildings and Estates and ensure all School of Engineering spaces/facilities align with diversity, equality and inclusion.	2020	New and refurbished spaces respect and facilitate all users.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.14: School of Engineering Strategic Plan 2019 - 2023: 12. Diversity, Equality and Inclusion

Institute Enabler	Engineering Objective	Engineering Sub Objective	Action Required	Indicative Timescale	Success Indicators
13. Community and Outreach Programmes	Develop a plan to strengthen and support community engagement actions of the School of Engineering staff and students	**1.** Review annually feeder school and other programme entry data.	Annual review of feeder school and other entry data with PBs and Schools Liaison.	2020	Reviews take place and amendments incorporated into School Liaison and other promotional plans.
		2. Develop School of Engineering alumni to provide learning support and inspiration for School of Engineering students.	Invite alumni to act as external examiners where appropriate.	2019-23	Alumni appointed as external examiners.
			Invite alumni to give advice on programme development.	2019-20	Alumni advice on programme development for PBs.
			Invite alumni to propose their companies host work placements.		Alumni companies host work placement students.
			Invite alumni employ apprentices for School of Engineering apprenticeship programmes.	2020	Alumni companies hire apprentices.
			Invite alumni to act as judges of student performance where appropriate.		Alumni judge student work.
		3. Support teaching and research actions that enhance community engagement and outreach.	Extend Community Engagement module onto all u/g programmes.	2019-20	APSs amended through programmatic review process.
			Promote and support research actions that engage communities or create communities of practitioners with GMIT leadership.	2020	Community projects running with GMIT leadership.
		4. Use community engagement project outcomes to promote School of Engineering programmes and impact of projects where appropriate.	Document projects for publicity and marketing.	2020	Community projects promote School of Engineering programmes and community research.
		5. Enhance collaboration with professional bodies, industry bodies, and companies in design and delivery of schools outreach programmes.	Assign planning coordination roles and resources to outreach projects and promote staff participation.	2019	Successful schools outreach programmes delivered.

Source: GMIT Strategic Plan 2019 - 23

Fig. 17.15: School of Engineering Strategic Plan 2019 - 2023: 13. Community and Outreach Programmes