



**University College Dublin**

**Quality Improvement Plan**

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School of Electrical and Electronic Engineering

10 September 2021

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## 1. Introduction

Following a period of preparation, the School submitted a Self-Assessment Report on 18 December 2020. The Periodic Quality Review was conducted in March 2021 and the Reviewers' Report received by the School on 17 May 2021. The report was shared with members of the Self-Assessment Report Co-ordinating Committee (SARCC) who prepared an initial two-page response to the Quality Review Report. The report was subsequently shared with all members of staff at the School Council meeting of 25 August 2021. In preparing the Quality Improvement Plan, each member of the SARCC initially drafted responses to the recommendations related to the corresponding section of the Self-Assessment report for which he/she was responsible. The SARCC met on 2 September to consider the initial draft of the Quality Improvement Plan. The plan was revised and shared with the members of the School Council on 9 September 2021. Incorporating feedback from the School, the report was finalised and submitted to the UCD Quality Office 10 September 2010. A Quality Improvement Committee has been appointed with responsibility for overseeing the implementation of the Quality Improvement Plan; see Table 1.

Prof. Peter Kennedy, Head of School<sup>1</sup>

Prof. John Sheridan, Head of School

Prof. Madeleine Lowery, Chair SARCC

Table 1: Membership of Quality Improvement Committee

Members	Position	Responsibility (action numbers)
Prof. John Sheridan Dr. Paul Curran	Head of School Deputy Head of School	ORGANISATION AND MANAGEMENT
Prof. Andrew Keane	Director, Energy Institute	STAFF AND FACILITIES
Assoc. Prof. Stephen Redmond Dr Avishek Nag	Head of Teaching & Learning	TEACHING, LEARNING AND ASSESSMENT
Mr. Brian Mulkeen Dr. Nam Tran	Programme Director	CURRICULUM DEVELOPMENT AND REVIEW
Prof. Anding Zhu Assoc. Prof. Simon Kelly	Head of Research, Innovation & Impact	RESEARCH ACTIVITY
Prof. Madeleine Lowery	Subject Head, Biomedical Engineering	MANAGEMENT OF QUALITY AND ENHANCEMENT
Mr. Liam Carroll	Chief Technical Officer	SUPPORT SERVICES
Dr. Barry Cardiff Dr. John Healy	BDIC Coordinator	COLLABORATIVE PROVISION AND EXTERNAL RELATIONS

<sup>1</sup> Prof. John Sheridan took over the role of Head of School on 1<sup>st</sup> September 2021



	School.			
2.13	<p>The current <b>workload model</b> should be reviewed to ensure transparency, accountability and equality of opportunity to pursue different activities.</p> <p>The value of introducing a School <b>sabbatical leave rota</b> should be considered as part of this process.</p> <p>Scope for flexible working patterns and hybrid working arrangements should also be considered, drawing on the experience of COVID-19, both to benefit staff and, potentially, to find creative solutions to the current shortage of office space (see section 3). Any <b>flexible working arrangements</b> must ensure equity and fairness for all staff.</p> <p>The <b>roles and responsibilities</b> of staff in the School Office should be made clearer to other staff across the School.</p> <p>The possible benefits of <b>greater flexibility</b> in roles and knowledge sharing for School Office staff should be considered (e.g. to assist in facilitating annual leave or managing tasks if a staff member is ill).</p>	<p><b>1</b></p> <p><b>1</b></p> <p><b>2</b></p> <p><b>1</b></p> <p><b>1</b></p>	<p>a. The workload model will be reviewed as recommended in 2021/2022, along with the process for applying for sabbatical leave.</p> <p>b. The possibility of introducing a sabbatical leave rota will be considered.</p> <p>c. Flexible working arrangements are currently being reviewed at the University level. The School is implementing the university-wide Guidelines for Trial Hybrid/Remote Working Arrangements which are in place for Trimester One 2021/2022 and will implement future university policies for flexible working as they evolve.</p> <p>d. The School will ensure that the roles and responsibilities of the members of staff in the Schools' Office are detailed on the School website; this will be done in Q4 2021. The information has been circulated to staff by email.</p> <p>e. The current structure provides flexibility in roles and knowledge sharing across the Schools' Office staff, which facilitates annual leave or managing tasks if a staff member is ill, and a training and development pipeline for the Schools' Office staff across key strategic and operational areas. With the proposed restructuring of administrative support across the university, the roles and responsibilities of members of the support staff may change, so this issue might take longer than one year to resolve.</p>	<p><b>C</b></p> <p><b>C</b></p> <p><b>B</b></p> <p><b>B</b></p> <p><b>C</b></p>

2.14	<p>The Review Group recommends that the School review its requirement for PhD students to act as <b>Teaching Assistants (TAs)</b> across all years of their studies. The remuneration policy for TA duties should also be reviewed and benchmarked against practice elsewhere in the College, the University and in other institutions.</p>	1	<p>In the short term, the School has decided to remunerate first year TAs from 2021/22, and to align the hourly rates to demonstrator scales.</p> <p>A School-level review of the role of Teaching Assistants (TAs) within the School will be conducted during the 2021/2022 academic year. This will include a review of the current requirement on all PhD students to act as TAs and remuneration of TAs, with benchmarking against other TA roles in other Schools. The review will be used to determine what other changes may be desirable.</p>	<p><b>A</b></p> <p><b>C</b></p>
2.15	<p>Ways of enhancing the <b>sense of community</b> and collective identity among post-doctoral researchers, research administrators and postgraduate research students should be explored by building academic and social links between labs and research groups, for example via School research symposia.</p>		<p>The School Executive Committee will consider this matter and bring a detailed proposal to the School Council on how to strengthen the sense of community amongst those who are involved in research.</p>	<p><b>C</b></p>
<p><b>STAFF AND FACILITIES</b></p>				
3.13	<p>In collaboration with the new College Vice-Principal for Development and other Schools within the College, the Review Group recommends that the School continues to seek ways to expand and update <b>space/facilities</b> through the development of a School Master Plan,</p>	2	<p>The School will work in collaboration with the new College Vice-Principal for Development to update and, where necessary, expand space and facilities within the School. There is an exercise currently being undertaken within the School and College to plan how space in the Engineering building will be used after the Centre for Creativity comes online post 2024 resulting in freeing-up of space in the Engineering and Materials Science Building. In planning for future space and facilities needs, the School will take into account the need for</p>	<p><b>C</b></p>

	which takes into account the need for integrated research collaboration, the facilitation of flexible working arrangements, and the use of shared office spaces, especially in relation to COVID-19 social distancing requirements.		integrated research space and future flexible working requirements.	
3.14	The Review Group recommends that the School develops a plan of action in collaboration with the HR Partner, HR Resourcing Consultant and the College Athena SWAN committee, to improve gender balance among faculty, especially at early career and senior levels, e.g. via the SALI scheme, Ad Astra opportunities, or reactive and strategic recruitment schemes.	1	<p>The School is committed to improving gender balance among faculty. To address this, it will develop a plan of action in the coming year 2021/2022 to attract more female applicants to faculty positions within the School.</p> <p>In particular, the School has identified the Ad Astra scheme as an opportunity to recruit a new cohort of excellent female early career stage faculty members. To this end the School is aiming to recruit three new faculty members in 2022 through the scheme in the areas of 1. Biomedical Engineering 2. Circuits/Signal Processing and 3. Electrical/Energy Engineering.</p> <p>A new female lecturer has recently been appointed in the area of biomedical engineering on a 12 month temporary contract to replace a staff member currently on sabbatical. A new longer-term post in biomedical engineering is planned which will be advertised early in 2022.</p> <p>Finally, in parallel the School will seek opportunities to recruit senior female academics through strategic recruitment schemes.</p>	C
3.15	Existing School practice around <b>induction/onboarding</b> should be further developed and formalised for all new academic, research, and administrative staff. The formal induction process should be conducted by the Head of School or designated manager in line with the UCD Probation Periods Policy.	1	<p>a. The School's implementation of the induction process for new staff will be reviewed by the School Executive in 2021 alongside the UCD Orientation Programme for New Employees and the Faculty Induction programme. At university level, UCD's institutional gender equality action plan aims to develop and formalise this across schools, and will implement an online induction checklist for completion and sign-off by both Head of School and new employee.</p> <p>b. All staff have been reminded of the requirement to comply with the Probation Periods Policy. The matter was discussed at the School</p>	B  A

	Advice on the <b>promotion process</b> for academic staff should form part of annual P4G conversations.		<p>Council meeting on 23 June.</p> <p>All reviewers have been reminded that advice on the promotion process for academic staff should be included as part of the annual P4G process.</p>	<b>A</b>
3.16	Provision should be made in the teaching and administrative workload allocation for faculty to apply for sabbatical leave.	<b>1</b>	In future planning and workload allocation, provision will be made to enable faculty to apply for sabbatical leave where possible.	<b>C</b>
3.17	Recruitment of staff should follow College and University policy, procedures and practice. All posts, including externally-funded research staff, should be advertised to ensure transparency and adherence to best practice on recruitment and reporting.	<b>1</b>	The School is committed to following all University policies in relation to the recruitment of staff. To ensure universal compliance with HR policies, a number of initiatives will be launched involving review of recruitment policies for all staff to educate and update all on the policies, procedures and best practices for recruitment. This will take place in Quarter 4 of 2021 to ensure all staff are aware of these policies and that they are fully implemented. If necessary, where gaps are identified in the procedures for implementation of policy within the School these will be addressed through changes in operating procedures and processes.	<b>B</b>
3.18	The academic staff must comply with the University's policy on consultancy and submission of annual returns	<b>1</b>	The requirement to comply with the University's policy on consultancy and submission of annual returns has been consistently emphasised at School meetings and in email correspondence to ensure that all staff are aware of the requirements for compliance with University policy. A process is in place in the School to ensure that any noncompliance is identified and addressed early.	<b>A</b>
<b>TEACHING, LEARNING AND ASSESSMENT</b>				
4.11	The Review Group recommends that the School continue to explore ways of increasing awareness and participation	<b>1</b>	Currently students are provided with information on study abroad and Erasmus exchange programmes during introductory information sessions early in Stage 2 of the undergraduate programmes. They then follow up with the exchange	<b>B/C</b>

	<p>in international study opportunities. This includes but is not limited to the ERASMUS+ and ERASMUS programmes. If language and programme content matching is a key challenge, then priority should be on those regions / countries where this is not an issue. Opportunities need to be flagged up to students early on, whilst bearing in mind the desire to spend some time abroad and considering the not-for-credit GPA neutral approach to Erasmus. In this context, exploiting the resources of the Rowan database and UCD Global's linkages is strongly recommended.</p>		<p>programme coordinators locally. The exchange and study abroad programme in the School is managed locally by Nan Zhao (BE Electrical and Electronic) and Donal Holland (BE Biomedical Engineering) in collaboration with UCD Global. There is currently a process in place by which modules within the individual programmes are mapped to modules in the exchange institutions.</p> <p>Though for credit, both Erasmus and non-EU exchange programmes are GPA neutral. To extend the programme reach and the opportunities available to students, the School will review the list of universities available for exchange, identify new exchange partners and will work with UCD Global to negotiate exchange agreements with those institutions.</p>	
<p>4.12</p>	<p>The Review Group recommends that the School considers how to retain the best aspects of the new forms of teaching, learning and assessment developed during COVID-19.</p> <p>It should also take further measures to close the loop between student feedback and module coordinators.</p>	<p><b>1 &amp; 2</b></p> <p><b>1</b></p>	<p>In terms of best practice in T&amp;L, the School Teaching and Learning Committee (STLC) will survey academic staff on what aspects of their teaching and learning practice they would like to retain once the COVID-19 pandemic abates. An analysis of the resources required to support these educational practices will be performed, focusing on opportunities to rationalise/harmonise the underpinning technologies where possible, estimating the required budget to procure the required technologies, and identifying what technological requirements should be funded from the school budget (tablets, etc.) and what should be funded centrally (lecture capture in shared theatres, etc.). Given that we face another uncertain academic year with the pandemic still yet to recede, it is expected that this plan will be implemented and reach its steady state within five years.</p> <p>Closing the loop: As highlighted during the review process, the school is already surveying student issues and satisfaction mid-trimester such that these issues can be addressed while they can still benefit current students.</p> <p>Improvement is needed is in ensuring feedback from students obtained through the end-of-trimester Quality Enhancement &amp; Student Feedback survey, where appropriate, is acted on to enhance the module quality. The STLC will lead a constructive and supportive module review initiative to review student</p>	<p><b>C</b></p> <p><b>B</b></p> <p><b>C</b></p>

	Research-led teaching could be further developed, with more guest lectures to illustrate industry relevance.	<b>1</b>	<p>feedback in collaboration with module coordinators and to identify and action appropriate student recommendations.</p> <p>Research-led teaching: The School Head of Teaching and Learning will raise this issue with academic staff at School Council meetings, encouraging module coordinators, where appropriate, to increase the number of guest lectures and industry-relevant content in their modules. Progress towards implementing this recommendation can be evaluated during the module quality review process.</p>	<b>C</b>
4.13	The School, in collaboration with the College widening participation committee, should expand their outreach activities and consider other strategies to increase the percentage of under-represented students to closer to the University target. There may be opportunities here to create a secondary schools liaison role and enhance online/remote teaching in close collaboration with the College Educational Technologist.	<b>1 &amp; 2</b>	<p>A number of initiatives are planned to increase the number of under-represented students within the School.</p> <ul style="list-style-type: none"> <li>a. In the immediate term, the School plans to adopt a more proactive approach to supporting students with a disability. To achieve this, the Engineering widening participation (WP) representative, Assoc. Prof. Mark Flanagan, will send a detailed message, through the School Head of Teaching and Learning, at the beginning of each new Trimester, reminding members of academic staff about their responsibilities in supporting students with a disability, both in teaching and in assessment. The key message will be that academic staff should be proactive in contacting students to offer support, rather than waiting for students to contact them.</li> <li>b. The assessment load for students will continue to be monitored systematically, and potential assessment clashes lessened through identifying peaks of assessment workload with corresponding actions by Module Coordinators.</li> <li>c. Since January 2021, a number of flexible and part-time programmes have been introduced to reach new student populations, including under-represented groups. Mature and part-time students in Engineering will be surveyed to get their feedback regarding their positive and negative experiences during their Programmes, and how the experience of these Programmes can be improved for future students.</li> <li>d. The School representatives for Equality, Diversity, and Inclusion will</li> </ul>	<p><b>B</b></p> <p><b>A</b></p> <p><b>B/C</b></p>

			<p>work with the College to increase the percentage of underrepresented students. Efforts in this direction are already underway. A member of the School academic staff, Dr John Healy, is the College Vice Principal for Equality, Diversity, and Inclusion, strengthening the collaboration between School and College in this area. Success in implementing this recommendation will be measurable by statistics collected by the College on students accessing our programmes that are categorised as members of these under-represented cohorts being targeted by UCD's Widening Participation initiative.</p>	<p><b>C</b></p>
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**CURRICULUM DEVELOPMENT AND REVIEW**

5.12	<p>The Review Group recommends that the already excellent profile of School graduates be further enhanced to make them more attractive and better equipped for industrial employers.</p> <p>In particular the Python programming language does not yet seem to be extensively taught in the School, while it is largely used in industry and should be introduced as early as possible in the undergraduate curriculum;</p> <p>Analogue Printed Circuit Board design is recommended rather than lower-level circuit theory/software;</p> <p>The regulatory landscape should be considered, which is especially relevant for modules/programmes relating to biomedical engineering and energy.</p> <p>Another area of improvement is in presentation and public speaking skills, which could be integrated into the undergraduate curriculum. This is particularly relevant when students/graduates enter multidisciplinary environments in industry.</p>	<p>1</p> <p>1 &amp; 2</p> <p>1</p> <p>1</p> <p>1</p> <p>1 &amp; 2</p>	<p>A curriculum review process began in May 2021, with a view to implementing changes from the 2022-23 academic year onwards. Working groups have been examining various broad areas within the curriculum and are scheduled to complete their work by the end of Q4 2021.</p> <p>The relevant working group in the curriculum review process is considering ways to introduce Python early in the curriculum, keeping in mind that introducing it as early as in the first year of the undergraduate programme would require agreement across all of Engineering. It is noted that Python is currently taught in one of the core modules in the ME Biomedical Engineering (EEEN40660 Experimental Design and Statistics for Engineers) and the Stage 1 option module EEEN10020 'Robotics Design Project' was delivered using Python in 2021.</p> <p>Printed Circuit Board design, analogue or otherwise, is not an activity in which most professional engineers would be expected to engage. The School views a deep understanding of circuits and excellent software skills as more important.</p> <p>Some modules already address regulatory issues. Coverage is likely to be expanded across all programmes as a result of the current curriculum review, and in light of updated accreditation requirements.</p> <p>Some modules already develop presentation and public speaking skills, in particular the project modules. Coverage is likely to be expanded as a result of the current curriculum review.</p> <p>This topic is addressed mainly in a Professional Engineering module, shared by all the Engineering programmes and also with reference to specific areas (e.g. human subjects research) within modules for individual programmes. Coverage will be expanded as a result of the current curriculum review. For example, new</p>	<p>B</p> <p>B</p> <p>D</p> <p>C</p> <p>C</p>
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	<p>Also, ethics should be better addressed according to the recommendations of Engineers Ireland during the accreditation process.</p> <p>In general, transferable skills (such as presentation, public speaking, ethics, etc.) deserve higher consideration within programme outcomes and as included in the curriculum.</p>	1 & 2	<p>lecture content on ethics and sustainable development is being introduced to the final year project module in ME programmes, assessed through the integration of these topics into written reports. Further ways to include ethical issues in other modules, especially core modules, will be explored.</p> <p>See above.</p>	C C
5.13	<p>The School should continue to maintain its excellent relationships with industry partners and seek to establish new ones, including also other collaborations, for example with hospitals or clinics, which might contribute to Biomedical Engineering, both in the design of the curriculum and for internships.</p> <p>The Review Group supports the School's proposal to establish an Industrial Advisory Board, identified as a core objective in the School Plan 2020-2024, in order to have formal relationships for curriculum development and revision (see also 10.9).</p>	1  1	<p>The School will endeavour to establish new relationships with industry and other partners, while continuing to maintain its existing relationships. It is noted that there are very strong links between the School and industry partners. There are also a number of collaborations between the School and the university teaching hospitals. For example there is a long-standing collaboration with the National Rehabilitation Hospital with opportunities for student internships. One of the limiting factors on clinical internships in the university hospitals is funding for internships, with clinical internships generally unpaid in the public hospitals.</p> <p>The School has refined the brief of the proposed Industrial Advisory Board and will establish an Industrial Advisory and Liaison Group, as planned. The role of the group will be to provide input on both curricula and research.</p>	C  C
5.14	<p>The Review Group recommends that the School builds on the findings of the Inclusive Teaching Pilot Study, carried out as part of the College Athena SWAN plan, in order to embed inclusive design and promote widening participation. The School should also further develop links with Access and Lifelong Learning.</p>	1	<p>Within the School, Dr John Healy is a faculty partner on the University for All Programme, which is promoting better accessibility of our teaching materials. The current curriculum review process is considering the coverage of design, including inclusive design, in the curriculum. The recommendation also refers to inclusive teaching, which will be promoted by the School Teaching and Learning Committee. The School will explore opportunities for deeper links with Access and Lifelong Learning.</p>	B/C

5.15	The Review Group recommends that the School considers the introduction of a reading week for undergraduate students in the first trimester.	2	Introduction of a reading week would be feasible only at programme level. It can be considered by the Engineering Programme Board. If agreed, it could be implemented in autumn 2022. If this is considered to be generally desirable, it would make more sense to implement it at University level.	C
<b>RESEARCH ACTIVITY</b>				
6.11	The School is encouraged to support staff in identifying suitable calls, and in grant-writing, as well as to improve the internal pre-submission peer-review process. There is good general support for grant writing across UCD but this could be more targeted within the School. An example from Computer Science is of a role dedicated to this in specific subject areas, funded by research funds within that School. An additional internal round of peer-review on grant applications should improve the success rates achieved.	1	While this has been happening in an ad hoc manner in some areas, a formal mentoring programme will be established within the school to help academic staff (especially junior staff) to effectively write grant proposals, including identifying suitable calls, proposal pre-review and improvement.	C
6.12	The Review Group recommends that the School further promotes the building of European partnerships in order to encourage participation in EU research programmes. Staff members report that participation in EU funded research projects is challenging because their teaching, research and administration duties make it difficult to ringfence the significant amount of time required to prepare a grant application. Further, involvement in EU projects as PI requires a	2 & 3	The school will explore the provision of dedicated resources to assist staff preparing grant applications, while the main support for EU Research programmes shall be provided by UCD Research. An increase in staff numbers would help with the challenges faced by staff in protecting time required to prepare large grant applications.	B/C

	considerable amount of administration and management, which can discourage potential applicants. The Review Group suggests creation of support organs helping in these activities, which should be assisted by centralized UCD support infrastructure.			
6.13	The Review Group recommends that the School maintains its strong links with industrial stakeholders, both in research projects and for input to teaching. Industrial stakeholders and alumni might benefit from being more integrated with the School through occasional events. The potential for industrial co-funded PhD and postdoctoral positions should be explored.	1	An Industrial Advisory and Liaison Group will be formed. The Group includes members from local companies and academic/admin staff in the school. Regular communications with local companies will be established.  Co-funding of PhD and postdocs is ongoing through different research centres and funding schemes. Further development of these opportunities will be explored via SFI Research Centre and Enterprise Ireland Technology Centre and commercialisation programmes.	A/B/C
<b>MANAGEMENT OF QUALITY AND ENHANCEMENT</b>				
7.13	The Review Group would encourage the School to maintain and develop the School Teaching and Learning Committee, and to consider the creation of a School Staff-Student Liaison Committee to supplement the Engineering Staff-Student Liaison Committee as a source of in-trimester feedback on modules.	1	The School Teaching and Learning Committee has been established and will continue to develop.  The creation of a School Staff-Student Liaison Committee is being considered and a committee or equivalent programme-level mechanism will be implemented to provide a means of in-trimester feedback on modules.	A  A/B
7.14	The School Profile compiled by UCD Institutional Research in 2020 records one	1	The School follows the University policy on teaching qualifications for academic staff. While the University does not have a requirement for members of the	C

	academic staff member with a teaching qualification, and three entrants to University Teaching and Learning Professional Programmes in the period 2015/16 to 2018/19. The Review Group recommends that a majority of the academic staff in the School should have a teaching qualification before the next Periodic Quality Review.		academic staff to have a formal teaching qualification, staff within the School are encouraged to engage with opportunities for continuous professional development offered through the University Teaching Qualifications. In this context and given the high teaching, research and administrative workload of staff, including senior staff with extensive experience in teaching and curriculum development, it would not be feasible to ensure that the majority of staff would have a teaching qualification before the next Periodic Quality Review. However, with the planned recruitment of new staff, it is anticipated that the number of staff with teaching qualifications will increase within this period.	
7.15	The School should ensure that it adheres to Academic Regulation 4.16 on the <b>internal moderation</b> of all coursework assessments and final examinations in all taught modules.	1	The School Teaching and Learning Committee will review processes for internal moderation across all modules to assess current practice and to ensure that these adhere to Academic Regulation 4.16. Guidelines and recommendations will be proposed and implemented where deficits are identified.	B
7.16	The Review Group recommends that the Head of School makes an allocation in the budget to ensure that technical staff have adequate opportunities for training and development in their field.	1	In consultation with the technical staff, the School will identify opportunities for training and development in their field and an allocation will be made in the budget for this, where the budget allows and where the centralised training and development unit are not providing the necessary technical courses.	B/C
<b>SUPPORT SERVICES</b>				
8.7	The Review Group recommends that the School strengthens its collaboration with the newly appointed College Educational Technologist as part of its ongoing commitment to curriculum development and module enhancement.	1	Several members of the School worked with the College Educational Technologist during the lockdown to develop online teaching resources. The School plans to strengthen its collaboration with the College Educational Technologist through the School Teaching and Learning Committee.	B/C

8.8	The Review Group notes that there is scope for the School to build stronger relationships with support units beyond the College, in particular UCD Library, UCD Careers Network, and UCD Global, and to improve reporting and awareness within the School of key initiatives such as the Career Mentoring Programme. Consideration should be given to the appointment of faculty members as direct points of contact with key stakeholders such as the College Liaison Librarian and UCD Careers and Skills Consultant.	1	Direct points of contact for the College Liaison Librarian and UCD Careers and Skills Consultant will be appointed, as recommended. These will align with the staff responsible for Teaching and Learning and supervision of Professional Work Placements, respectively.	B
8.9	The Review Group recommends that mechanisms should be established by the School for the regular feedback of IT problems from School staff to the College IT Committee, through the School faculty representative, or directly to a School or College liaison within IT Services.	1	A mechanism is in place for feedback of IT problems within the School through the School representative, Steve McEvoy, Senior Technical Officer, who has recently been appointed to the College of Engineering and Architecture IT Committee. We will ensure that all staff are aware of this mechanism through reminders at school meetings.	A
8.10	The Review Group recommends that the School establishes a working group of staff with experience of postdoctoral recruitment to liaise with the College HR Partner and HR Resourcing Consultant to advise on the procedures currently in place and address the key issues.	1	As part of the review of HR procedures and policies within the School, a working group of staff with experience in the recruitment of postdoctoral staff will be established, if necessary. See 3.17.	B
<b>COLLABORATIVE PROVISION</b>				
9.9	The Review Group recommends that the School considers the ways in which BDIC can be highlighted as a potential destination for outgoing UCD exchange	1	The School recognises new opportunities for BDIC as a potential destination for outgoing UCD exchange students and will develop these further. The opportunities offered will be highlighted to students as part of the overall study	C

	students, given that 50% of lectures there are from UCD staff. The good match of the new Electronic Information Engineering programme (for UCD students) means that the possibility of spending a semester/year in Beijing should become increasingly attractive for UCD students in the future.		abroad and exchange offerings.	
9.10	<p>The Review Group recommends that the School considers whether it might be possible to spread the load of the BDIC teaching across more individuals, meaning more colleagues involved with shorter stays rather than four months,</p> <p>as well as taking continued concerted efforts to address the variation and uncertainty relating to BDIC contracts.</p>	<p>2</p> <p>2</p>	<p>The teaching arrangements for BDIC are governed by the BDIC-UCD contractual agreements and the financial model which is in place. These stipulate that staff travelling to BDIC must be present for a minimum period of time and with a set teaching load per trimester. While it is not possible to require staff within the School who do not have a contractual requirement to teach in Beijing to do so, the School will offer the opportunity for staff who wish to teach in Beijing for a trimester, provided that arrangements can be made for continuity of teaching on programmes delivered at UCD.</p> <p>The School is aware of the limitations associated with BDIC contracts, including uncertainty which short-term contracts provide. However, the School is constrained by the BDIC agreements and funding model which does not allow for the provision of permanent contracts associated with BDIC.</p>	<b>C</b>
9.11	From a risk management perspective, the Review Group recommends that the School seeks complementary collaborative education provision opportunities, e.g. with partner institutions within Europe and/or the Universitas 21 network.	1	The School will continue to explore the potential for establishing new collaborative educational provision opportunities in collaboration with the College Vice Principal for Global Engagement.	<b>B/C</b>
<b>EXTERNAL RELATIONS</b>				
10.10	The Review Group recommends that the School continues to maintain and further promote formal connections with external stakeholders. In accordance with the School Strategic Plan, the Review Group supports the School's proposal to establish	1	This matter is addressed in section 5.13.	

	an Industrial Advisory Board. (see also 5.13)			
10.11	The Review Group recommends that the School be more active in improving its presence on websites and social media in order to better compete with other universities in attracting partners and external students.		In collaboration with the College Marketing Manager, the School will review its presence on websites and social media to increase its visibility, as recommended.	<b>B/C</b>
10.12	The main focus of the School is on the national context, and the Review Group recommends that the School adopts a more international approach in a wide range of areas, including student and staff mobility, and research collaboration.		The School has a long history of international engagement and collaboration. It will seek to emphasise and further develop this international approach and perspective over the coming years through initiatives including those discussed in sections 3.16, 4.11, 5.13, 9.9, 9.11 and others.	B/C
10.13	The Review Group recommends that the School works to increase outward student mobility both for exchanges and internships. At present, exchanges privilege China or English-speaking countries. The School is encouraged to exploit the resources of UCD Global, in particular the Rowan database, to explore links with new EU partner universities which have relevant course offerings, and which teach through English e.g. in the Netherlands.		This matter is addressed in section 4.11.	

### 3. Prioritised Resource Requirements

This section should only contain a list, prioritised by the Quality Improvement Committee, of recommendations outlined in the Review Group Report, which require additional resources. The planned action to address each recommendation with an estimate of the cost involved should also be included:

*Recommendation 3.14. The Review Group recommends that the School develops a plan of action in collaboration with the HR Partner, HR Resourcing Consultant and the College Athena SWAN committee, to improve gender balance among faculty, especially at early career and senior levels.*

1. The School was unfortunately not allowed to apply for an Ad Astra faculty position in the last round due to the faculty-student ratio within the School. However, the faculty-student ratio estimated by the university appears artificially high due to an anomaly whereby faculty who teach primarily in BDIC are included in the faculty associated with the UCD programmes, while students registered in BDIC are not. The underlying data used in the estimation of faculty-student ratios was examined as part of the QR process. In the upcoming round of Ad Astra fellowships, the School wishes to recruit a number of excellent, female, early career stage faculty to improve gender balance among faculty within the School, raised by the Quality Review Committee. We ask the University to support our efforts proactively to address the gender imbalance issue by enabling the School to recruit new staff through the Ad Astra programme and by funding an additional lecturer post (EUR 100k per annum).

*Recommendation 3.16. Provision should be made in the teaching and administrative workload allocation for faculty to apply for sabbatical leave.*

*Recommendation 2.12. More generally, short and long-term succession planning, including for Technical Staff and BDIC staff, should be conducted to ensure that retirements and role changes are managed with minimal disruption to School operations. This process should take account of changing disciplinary and support needs within the School.*

1. Additional resources are required to enable recruitment of academic and technical staff to support student numbers in areas of growth and technical support for teaching and research programmes. In particular, we need an additional lecturer in Biomedical Engineering and technicians to support IT and electronic hardware (3 x EUR 80k per annum).

*Recommendation 3.13. the Review Group recommends that the School continues to seek ways to expand and update space/facilities*

2. The disciplines of Electrical, Electronic and Biomedical Engineering are constantly changing. Support is required for the refurbishment of space and facilities, including modernisation of electrical and electronic laboratory facilities, and expansion of biomedical laboratory capacity to support growing student numbers (laboratory equipment EUR 300k).

*Recommendation 2.14. The remuneration policy for TA duties should also be reviewed and benchmarked against practice elsewhere in the College, the University and in other institutions.*

3. An additional allocation in the staff budget is required to enable the School to pay TAs from year 1 (EUR 20k per annum).

*Recommendation 7.16. The Review Group recommends that the Head of School makes an allocation in the budget to ensure that technical staff have adequate opportunities for training and development in their field.*

4. A training budget is required to enable technical staff to avail of training opportunities not currently offered within the university (EUR 10k per annum).