Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Annual Faculty Quality Report (AFQR) 2024
Faculty of STEM

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Annual Quality Report 2024

Executive Summary

In the AY 2022/2023, the schools across the Faculty refreshed their strategic plans using a new STEM strategic plan template and 'looked ahead' as the new College-wide BPA budget model was implemented.

The theme for the 2023/2024 Faculty Quality Report was one of 'self-analysis and reflection' with three schools (Natural Science, Engineering and Physics) all completing or preparing for external quality review, and the re-election of the Faculty Dean for her last and final, three year term-of-office.

Schools within the Faculty have made notable improvements in process efficiency, student supports and industry engagement, responding actively to student and external examiner feedback. However, housing shortages, infrastructure limitations, and staff retention remain critical challenges. On-going efforts focus on locally designed IT processes designed to reduce manual data handling and administrative workloads, to enable curriculum enhancements, to clarify marking and assessment criteria, and to expand teaching resources. The aim for many schools was to 'buy-back academic staff time' and improve the student experience.

Student Feedback & Academic Enhancements

- Student evaluations and feedback resulted in a number of positive changes to module structures, improved timetabling, increased mathematics supports, more structured lecture delivery and the creation of dedicated laboratory coordinator roles (now in Physics, as well as in Chemistry).
- Natural Science developed an automated and anonymous approach to module evaluation.
- In several disciplines, student concerns around assessment workload led to refinements around the clarity and timeliness of assessments, in-class tests and module reorganization. In Chemistry revisions to the SS problem-based assessment were undertaken, with additional problem-based tutorials provided for students. In Genetics and Microbiology SS model answers were provided to examiners to moderate and normalise the feedback to students on essay-based assignments.
- Various schools increased the levels of industry engagement in course design and delivery e.g. Engineering, Computer Science and Statistics, and Physics involve industry collaboration and guest speakers in several of their high demand UG and PGT lecture programmes; scoping opportunities for industry collaboration through media packs, consultancy, UG Design Days and PG Research Events.

Student Retention & Engagement

UG student retention rates are in line with those across College with the highest number of students lost to Trinity STEM in JF years (*68* of *1027* students = *6.6%, cf. to 8%* in *2023*) and falling to *2.1%*, *2.7%*, *1.3%* and *0.5%* across the 4 (BA) or 5 (MAI) years of the UG degree programmes. The JF data in particular were reviewed by the Associate Dean of Graduate Science Education and the Science Course Office who noted that significant numbers of JF students are lost to other courses within and outside of STEM (*2024 = 4.3%*, 2023 = *3.6* %).

Within STEM courses, Physical Sciences and Mathematics report the lowest degree completion rates (across all four years of the degree programme). This may reflect changes in the Leaving Certificate Mathematics curriculum and has prompted schools to enhance their mathematics teaching and supports. The School of Mathematics has taken steps to improve the accessibility of its 'help room' (now open daily during term for students across the faculty seeking help with mathematics, statistics and theoretical physics questions) and have further expanded their disciplinary examples and online supports for students undertaking service modules in mathematics.

The Faculty acknowledges the contributions of our undergraduate student representative (Ruaidhrí Saulnier) and PG student rep (Mariana Silva) on the STEM Faculty executive committee in AY 2023/*2024*. Their input enriched many faculty discussions. In particular around UG retention, the suitability of the Goldsmith Hall and the high cost-of-living and accommodation shortages that continue to impact staff and students.

External Examiner Reports & Accreditation

Although external examiner reports remain positive and external reviewers are very complementary about the breadth and specificity of course curricula and content, common suggestions emerged around plagiarism checks, AI awareness training, and the need for clearer assessment criteria. As part of an on-going response STEM Schools are adjusting their teaching with respect to Generative AI. Several have formed working groups that provide guidance to students and staff who wish to use and cite GenAI sources appropriately.

The % return of the external examiner reports across STEM schools varied considerably. The centralized/school-based mechanisms for extracting these written reports is not wholly successful and needs collective and careful consideration i.e. whether the report format is too onerous and/or payment might be withheld in the absence of receipt.

External accreditation has progressed (e.g. Institute of Physics) with some disciplines preparing for re-accreditation in 2024/5. One issue emerging for external bodies is the requirement for more stringent capping in terms of re-sit grades.

Athena SWAN and Equality, Diversity and Inclusion (EDI)

7 of 8 STEM Schools hold Athena SWAN bronze or silver awards. In April 2023, Natural Science and Chemistry attained silver awards and in Sept 2024, Genetics and Microbiology successfully renewed their bronze award while Physics was awarded silver. Such achievements are a reflection of the demonstrable impact of the work undertaken in the Schools and supported by the College's EDI Office.

Schools are actively embedding EDI and sustainability principles into their modules e.g. the module 'Physics for Postgraduate Teaching Assistants' in the School of Physics includes topics such as 'teaching in multicultural classrooms', 'unconscious bias' and 'cognitive workload' and the School of Computer Science and Statistics has developed a new UG sustainability module for roll-out in AY 25/26.

Administrative & Process Improvements: Academic Registry

- Academic Registry automated the submission and processing of Garda Vetting applications.
- Exams venues were back on campus.
- Student Finance altered the fee schedule to make it more user friendly online - https://www.tcd.ie/academicregistry/fees-and-payments/
- Student Cases worked to make the OBN, OBA, deferral and other forms more accessible - https://www.tcd.ie/academicregistry/student-cases/student-cases-forms/

On-going 2025 challenges

By their nature, Faculty Quality reports are a retrospective evaluation of the preceding academic year. From 2023 onwards, it was agreed that the Deans would highlight on-going and current items.

- The retention and replacement of administrative staff and the recruitment of PhD students is proving challenging in a period of high inflation.
- Although the Research Metrics of the Faculty remain strong, a review of the QS World rankings would indicate that the number of STEM disciplines in the top 100 is declining.
- Infrastructure limitations, particularly the quality of lecture halls and the availability of laboratory space are ever-pressing issues. There are several examples of leaking roofs, damp, and accessibility issues, across the Faculty. Among these, the unsuitability of the Goldsmith hall as a large flat lecture theatre with poor acoustics, egress and broken

Source: https://www.topuniversities.com/universities/trinity-college-dublin-university-dublin

Subject: QS world ranking	2022	2023	2024	2025
Geography	101-150	50-100	51-100	50-100
Chemistry	87	88	86	77
Computer Science	104	91	109	110
Biological Sciences	71	93	97	115
Materials Science	87	77	79	89
Physics and Astronomy	151-200	122	104	108
Electrical and Electronic Eng.	150	144	130	117
Mechanical Eng.	138	145	141	151-200
Geology	201-220	151-200	151-200	151-200
Earth and Marine Sciences	151-200	151-200	151-200	151-200
Engineering and Technology	165	183	158	150
Engineering Civil and Structural Eng.	151-200	151-200	101-150	101-150
Natural Sciences	201	197	167	157
Geophysics	N/A	201-230	151-200	151-200
Environmental Sciences	201-250	201-250	201-250	201-250
Mathematics	251-300	201-250	201-250	251-300

furniture remains a focus for student complaint.

Other major challenges in the Faculty that are linked primarily but not exclusively to financial resourcing include:

(i)   Changes to external funding which has impacted the number and size of grants and prolonged the period between application and award decision e.g. Research Centre funding. These affect PhD student recruitment and the availability of PDR and laboratory supervision.

(ii)   The increasing cost of doing research (inflation, pay awards, disrupted supply chains, concerns around carbon footprint/emissions, heightened awareness of Health and Safety) which affects research-led teaching and UG capstone projects.

(iii)   A lack of national funding for third level institutions to replace aging infrastructure or invest in new equipment.

Professor Sylvia Draper
***Dean of* Faculty of Science, Technology, Engineering and Mathematics (STEM)**

UG student module evaluation

School	Number of Undergraduate Modules taught	Number of Undergraduate Modules Evaluated	Percentage of Undergraduate Modules Evaluated	Average response rate to UG module evaluations (%)	Comments/Actions arising Evaluations
Biochemistry & Immunology	57	57	100%	10%	Some students felt that the distribution of lectures in one module was uneven over the two semesters and in response the module coordinator introduced some tutorials to introduce key topics earlier. SS students reported that having 3 exams in close succession was very difficult. Our response: we have requested that AR set these important final exams as far apart as possible. Erratic timetabling was cited: this occurs due to so many different students taking the same module. Online only modules not popular More feedback requested on assignments. BIU33010: students requested a more structured series of lectures where topics link and follow on. Several complained that there was an element of randomness to the topics with a lack of sequential organisation to the module. They suggested that the lectures be grouped around a few central themes. There was also an issue with last minute changes to lectures and that some topics ; transcription and translation were covered several times by different lectures BIU33160: Students raised several issues. (i) The material on BB was not always detailed enough, the notes

					need to be clearer and up before the sessions (ii) These sessions are across all moderatorships and the students claimed that in some questions/sessions discipline specific knowledge was required to answer the question. These sessions should be self-contained and there should be no need for discipline specific knowledge. (iii) Some of the problems contained repeated, routine mathematical calculations that were time consuming and pointless in terms of the data analysis. (iv) There was inconsistency in the support available for students from their respective supervisors for the minireview. BIU33905 There were a lot of complaints about the timetable. It was impossible for the students to attend some of the lectures, at least 5, because of clashes with their practicals and a requirement that the timetable suit medical/physiology students. However, they liked the material. Students' comments will be discussed at the UG curriculum committee meeting and any changes that we consider appropriate and can implement will be done.
Chemistry	34	16	47%	17%	The DTLUG and Year/Course coordinators also held whole-class meetings to air any issues with modules. A Freshman liaison committee meeting was also arranged but no students attended. Semester 1 modules were surveyed using SurveyMonkey. Most survey comments related to issues such as small-class tutorials

					that the school does not have the resources to provide
Computer Science and Statistics	75	75	100%	24%	Survey reports were returned to module coordinators, showing each module's performance compared to average per cohort. DUTL & ADUTL collected additional qualitative feedback from meetings with Class Reps & School Convenor(s) at the end of each Semester.
Engineering	107 (Yrs 1-4)	107	100%	100% response rate in the Freshman and Sophister years due to method of evaluation.	Evaluations with the student representatives in each semester before assessments across the Freshman and Sophister years. Feedback discussed with the module coordinators and actions taken. Heads of Discipline discuss feedback with their module coordinators of the Sophister modules, whilst Director of Undergraduate Teaching & Learning discussing evaluation feedback with the Freshman module coordinators, including those coordinators in service teaching schools. Following feedback in the freshman years, additional Maths tutorials were scheduled in the academic year 2023/24 to reduce the number of students in tutorial classes. In response to feedback on year 3 Electronic Engineering modules, EEU33E03 has undergone significant changes including changes to assessments and a change of module coordinator. EEU33C02 and EEU33C07 have switched semesters following feedback from students. Both changes have been met

					with greater satisfaction and engagement from students. In response to feedback on the level of CA for MEU33B09, the CA was modified to the satisfaction of students. Students commented on their lack of awareness of career paths available to them. In response to this, the School created an industry slot in all students' timetables and hosted weekly guest speakers from industry.
Genetics and Microbiology	47	47	100%	~40%	Students were encouraged to give online feedback for JS and SS (Genetics, Human Genetics and Microbiology). In our Genetics and Human Genetics courses, Senior Sophister feedback is also given via meeting between class reps and Director of Undergraduate Teaching and Learning. The class reps bring the feedback from their peers and discuss it with the DUTL. Notes from the feedback meeting are collated by administrative staff member. Microbiology has noted that they had a lower response rate online this year and will revert to paper format, which will, as in previous years, be handed out during the last lecture of each module. Responses from students were generally very positive and noted that our three courses are stimulating, engaging and the value of the capstone project was emphasised.
Mathematics	56	56	100%	60/100	The evaluations are distributed before reading week and subsequently shared with the module lecturers such that the feedback can be included during the semester.

					Modifications typically include alterations to the pacing of the lectures, provision of additional materials and organisation of additional tutorials.
Natural Sciences	117	53	45	50	• Redesign of field activities • Greater demonstrator support for lab and field exercises • Revising length of practical sessions • Improved integration between tutorials and lectures • Review of exam paper structure, taught Vs research content • Greater structure to CA deadlines • Inclusion of smaller group activities and more hands-on practical work • Greater links between spot tests and learning outcomes • Timing of assessment exercises and module content
Physics	41	13	31%	52.3%	In Semester 2 23/24, the School adopted a new digital survey system as a response to the poor response rate to 22/23 surveys and to formalize post survey processes. The numbers quoted here refer to the surveys carried out in Semester 2 when phase one of the process was rolled out. This process has been fully adopted for 24/25.
Faculty Total					

Open Module Evaluation

School	Title of Open Module(s) offered, in full	Actual response rate to Open Module evaluations using USC approved survey questions (%)	Comment/Actions arising from Evaluations
Biochemistry & Immunology	BIU33350 Molecular Basis of Disease; BIU33475 Basics of Neurobiology; BIU33150 Biochemistry for Biosciences; BIU33250 Introduction to Immunology & Immunometabolism;	3 20 1.3 3	Main complaint was that the lectures were online. We are still trying to deliver these modules in person, which is a challenge since so many disparate students take these. In-person feedback session on BIU33150 and BIU33250: There was no issue with the online aspect of the course; the lectures were available as posted. The MCQ was fair, and the in-course assessments were useful. There was an issue with the exam being in person but the lectures online.
Chemistry	N/A	N/A	N/A
Computer Science and Statistics	SCSS has no dedicated Open Modules. Students taking SCSS modules as Open Modules are included in the general surveys above.	N/A	
Engineering	N/A	N/A	
Genetics and Microbiology	GEU33045 Genomics and Systems Biology GEU33055 Developmental Genetics GEU33215 Medical Genetics	~60%	Students found the material was clear and well-presented. The lecturers encouraged discussion and questions. For some open modules, students noted that they would like to have received more feedback during the module.
Mathematics	Euclidean and Non-Euclidean Geometry for TR060	N/A	
Natural Sciences	Open modules included in Table 1 above	N/A	N/A
Physics	1 X Trinity Elective module (From Planets to	18%	In 23/24 an additional group project was introduced

	Cosmos). All Trinity Electives are surveyed independently of the School.		to replace one of the online MCQ assignments. As part of this, some tutorial style "group-sessions" (for both group projects) were introduced where students sat in their groups and the lecturers discussed their projects and gave feedback. This was to respond to feedback that the students wanted more interaction, both with lecturers and among their cohort. These changes were popular among students. In 24/25 we are in the process of introducing 2x guest lectures, additional lecturers from external institutes are coming in to discuss more research-specific topics. This was to respond to some comments from science students that they wanted some more rigorous scientific content (though the course still has to remain accessible across all faculties).
Faculty Total			

Undergraduate External Examiner Reports

School	No of External Examiner Reports Expected (UG)	No of External Examiner Reports Returned (UG)	% of External Examiner Reports Returned (UG)	Did the School respond in writing to EE recommendations?	Did the External Examiner(s) have or request access to Blackboard?	Comment/Actions arising from EE Reports
Biochemistry & Immunology	4	3	75%	Yes ☐No☒	Yes ☐ No☒	The external examiner noted that some supervisors were referring incorrectly to lab performance when correcting the thesis. Our response: We reminded staff that when completing the dissertation marking sheet not to refer to the student's performance in the lab but to solely focus on the dissertation. EE noted that some students take part in exchanges and suggests closer monitoring of the programmes they take part in to ensure they are not disadvantaged by these exchanges. Our response: We will conduct a review in the summer of those students over the past 5 years who went on study abroad and assess whether this negatively impacted their overall degree mark.
Chemistry	3	2	66%	Yes ☒No☐	Yes ☒ No☐	a) Derogation obtained to allow a 60% re-sit capping. b)*"More time should be allocated to final year projects, which were universally loved":* This would indeed be ideal but unfortunately not possible with the current academic year structure. c) *"more small-group problem-solving exercises for ALL units to help improve their*

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						exam technique": These are being implemented for next year d) *"More support for analytical skills (e.g. spectroscopy) and hands-on data analysis to help them complete lab assessments in a timely fashion":* This was implemented this year in the JS year. The school received very positive feedback from 3rd year students. e) *Access to complete online lecture notes/recordings for all Units:* Students retain access to all the BB modules they were registered for throughout their degree. There are no restrictions on students retaining copies of notes obtained in previous years of their course. f) "*Model exam question answers available for past exam papers for ALL Units":* Although this is common practice in the UK, the School of Chemistry is strongly opposed to it. Model answers often do not align with our exam marking approach. While model answers assign marks based on the precision of responses, our markers frequently allow flexibility as long as the answers demonstrate an understanding of the topic. Providing model answers would misrepresent the marking process and potentially mislead

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						students. Although we do not believe that providing model answers is useful for the high level of learning expected of our students, we do provide model papers and access to past papers. Also, review questions at tutorials include past problem papers and discussions of mistakes and potential pitfalls in students' answers. These tutorials are available to all students registered in the module, but attendance is typically not very high. *g) "Better communication with students from staff":* The current DUTL, Prof. Valeria Nicolosi, has adopted a very hands-on approach with all years and cohorts. She has organized numerous meetings throughout the year, fostering an open-door policy. This comment is quite surprising, as the class has had unprecedented open communication with the DUTL and the School throughout the year. This has been acknowledged multiple times by class representatives and the convenor. The DUTL has kept an open communication channel with the class, with the reps and with the convenor. The DUTL has also organised several dedicated meetings with all degree years and with all Moderatorships throughout

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						the year. A Staff - student Liaison meeting has taken place. The DUTL has made sure that, when possible, students' requests were satisfied with actions. *(f) "Better careers provision":* We offered RSC career orientation talks and postgraduate induction lectures. Furthermore, we are working hard to strengthen the link with industry. We are also discussing how to implement the option of industry-based Capstone projects in future. We have set up an Industry Advisory Board and we are engaging them on projects and syllabus.
Computer Science and Statistics	5	2	40%	Yes ☒No☐	Yes ☒ No☐	Overall, the returned examiners' reports show that the examiners are satisfied with the quality of the programmes (curriculum design and content, assessment, courts of examiners). Suggestions include (1) that all FYP reports and dissertations should undergo a plagiarism check, (2) to introduce a procedure where students declare awareness of "GenAI Principles", and (3) to introduce training for first-time examiners.
Engineering	6 – EE report for each of the	5 - Engineering with	83%	Yes ☒No☒	Yes ☒ No☐	Externs had access to module material via Sharepoint and Blackboard.

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	Disciplines including MAI	Management still to be submitted				Comments/Actions are detailed below for each stream. **Biomedical Engineering** The External Examiner was happy with the curriculum and feedback from students. Some suggestions are as follows: · The Discipline would benefit from streamlining the program by clearly defining core requirements with more limited flexibility on technical electives. This could be achieved by grouping the electives thematically, creating a menu to choose from. This suggestion was based on some feedback of students feeling overwhelmed by the various paths in the program. This would ensure core competency as well as maintaining some flexibility in choice for specialization. The School is taking this into consideration and reviewing flexibility with choosing modules. · The Discipline would benefit from developing a policy on the use of A.I. tools in assessments. This has been actioned. · Institutional support for equipment/computing resources has not increased with increasing student numbers,

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						which can be addressed. · The Discipline should look at a uniform deadline for application to externships for Erasmus as students are often asked to choose on Erasmus before hearing back from international opportunities. · Some concerns with grade conversions from Erasmus to Trinity grading were raised by students. This has been actioned. **Civil, Structural and Environmental Engineering** The External Examiner was happy with the overall curriculum and course content but mentioned that the previous recommendation to give the opportunity to complete a more open-ended project, perhaps across disciplines, has not been fully implemented. The External Examiner had the opportunity to review two batches of examination papers and raised concern regarding the late arrival of the second batch, commenting that some had minor errors and a duplicate question. The External Examiner has recommended that all marks/scripts be clearly checked as a matter of course. The External Examiner was pleased with the overall standard of projects, noting that some

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						were exceptional and could result in peer-reviewed publications. The External Examiner noted that the proposal to award marks pass/fail for internship was mentioned again. The External Examiner recommends that this not be implemented as it fails to reward excellent students and could disincentivize others. It was also noted that the 5th year class rep shared this view. **Computer Engineering** The External Examiner noted that this was the first year in the role however, consulting the Undergraduate Handbook, module descriptors and learning outcomes, the Extern was very happy with overall course content and design. The External Examiner highlighted the excellent quality of the Undergraduate Handbook. The External Examiner recommended that an online tutorial on how to avoid plagiarism be provided to students ahead of their first assignment. It was recommended that all Final Year Reports and Dissertations should undergo a plagiarism check via Turnitin or others before the defense process. This will allow this

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						Committee to analyse the report before making a final decision. The External Examiner suggested that an initial external examiner training day should take place for new externs to introduce procedures and outline what is expected of them. There was also a suggestion to provide student feedback (surveys etc.) in the absence of speaking to students directly. **Electronic Engineering** The External Examiner noted that the Discipline is on a positive trajectory with increased staff and student numbers. Student feedback to the Extern asked that more electronics, physics and hardware-based topics especially in the early years of Engineering. The External Examiner recommended that the Department take advantage of increased interest in electronics in Ireland, the EU and worldwide and noted that the Department is in a strong position to do so. **Mechanical and Manufacturing Engineering** The External Examiner was very impressed overall with the standard of course material and delivery, with good feedback from students. Some suggestions are as

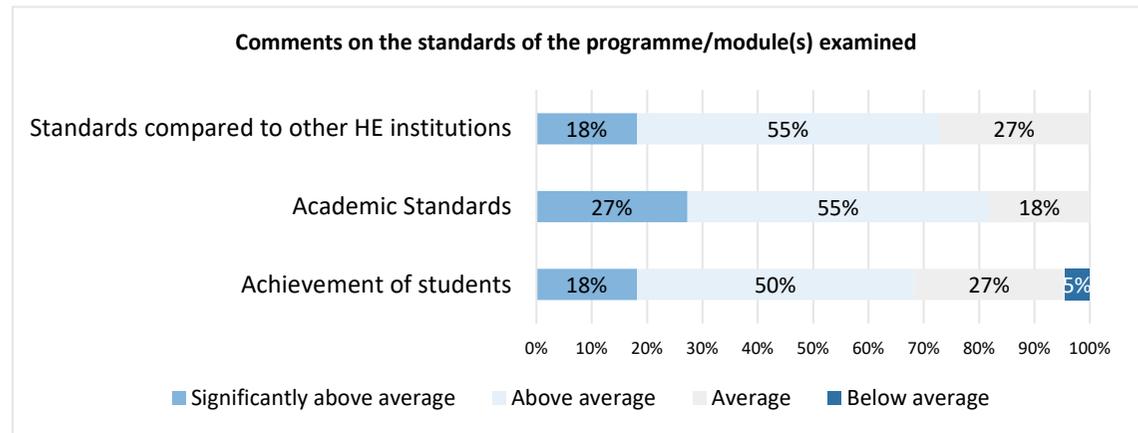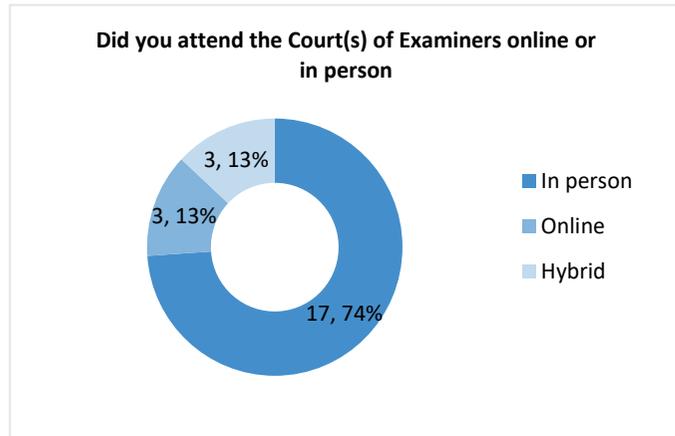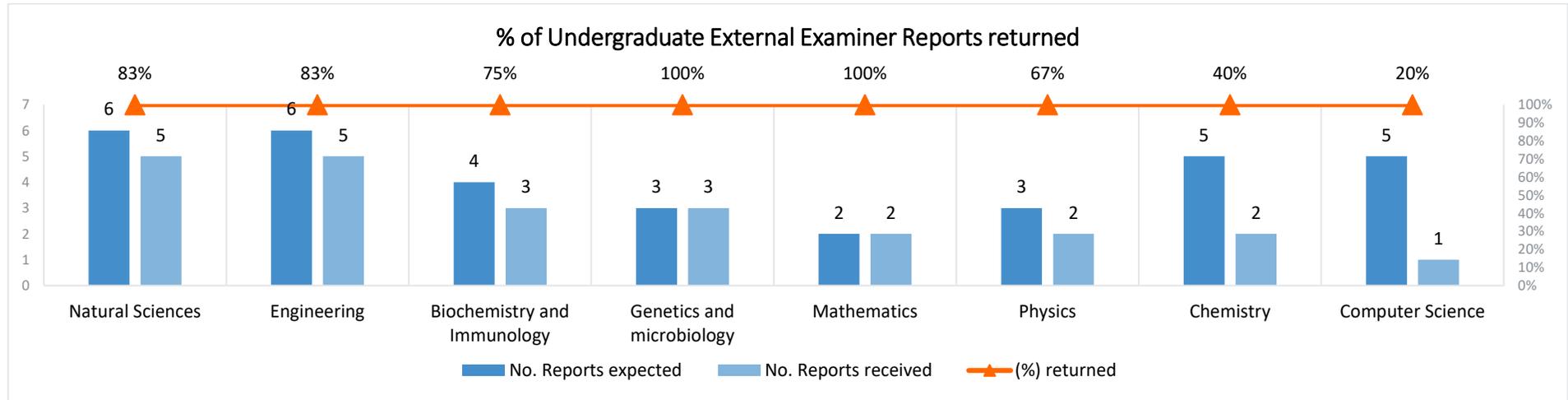| School	No of External Examiner Reports Expected (UG)	No of External Examiner Reports Returned (UG)	% of External Examiner Reports Returned (UG)	Did the School respond in writing to EE recommendations?	Did the External Examiner(s) have or request access to Blackboard?	Comment/Actions arising from EE Reports
						follows: · Academic staff should visit internship students on placement to increase links with the Company for example, for future research funding, but also for feeling of integration for the students. A new appointment of Internship Coordinator and Industry Liaison Officer has been made in the school to strengthen ties with different companies etc. · The length of the report on Undergraduate theses could be slightly reduced, especially the review section, to concentrate better on the actual research aspect. · There may be merit in simplifying pathway options for students as options and paths can appear complicated to students and cause issues with scheduling exams, coursework etc. The School is committed to reviewing this going forward. The Extern praised the introduction of in-class computer-based assessments in this Discipline, recognising that it can be difficult to introduce new methods of assessment to a well-established course. It was noted that previous comments/suggestions to ensure marks are auditable on exam papers has resulted in this

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						being significantly improved for 23/24, however, the Extern noted that the quality is still variable.
Genetics and Microbiology	3	3	100%	Yes ☒No☐	Yes ☒No☐	The Human Genetics course is "Very well organised course very popular with the students." The external examiner noted that his recommendations were very minor, but included a suggestion that SS students could present their capstone projects to each other. The Genetics course is "an exceptionally diverse curriculum, which is increasingly rare…and is a considerable strength". The diversity of projects available is notable and standard of supervision received was without exception, excellent." The external examiner suggested that we could consider implementing a system whereby the project report is evaluated by two people unconnected to the research project (i.e. not supervisor). The external examiner for the Microbiology course noted "Over the past four years I have consistently highlighted the excellence of the curriculum". The problems paper, in particular, was very highly commended in its testing of analytical skills. There was a comment from an external examiner about being conscious of the balance of research and teaching. In

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						particular, it was noted by the Microbiology external examiner that teaching was taking up a lot of time, which makes it challenging for academics to also focus on their research portfolios.
Mathematics	2	2	100%	Yes ☐No☒	Yes ☐No☒	Access to Blackboard was offered during the extern's visit but was not used. The reports have generally been positive, requiring no significant actions. Improvements to the clarity and transparency of marking were previously undertaken and continue to be implemented.
Natural Sciences	6	5	83%	Yes ☒No☐	Yes ☒No☐	• Benefits of, and suggestion to maintain/increase amount of field based teaching. • Appropriate assessment of students who are equipped with relevant skills and competencies, but greater mapping of assessment to course learning outcomes would be beneficial. • Use of full grading scale, both upper and lower ends, appreciation that this is an institutional culture not programme specific. • Embed more training in data skills within third and fourth year modules especially

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						for capstone projects • High averages for all students on some modules, review of marking rubric application • The use of MCQs was discussed with internal examiners and the value of these as an assessment tool especially to mitigate against the misuse of AI • Good to see a mix of Ireland- and EU-based field trips, which offers flexibility to students who may have other responsibilities or are not able to travel away from home.
Physics	3	3	100%	Yes ☐No☒	Yes ☐No☒	The EE comment across the programme as a whole rather than on individual modules. The EE's make comments on individual exam papers and these comments are fed back to the relevant academics. Responses are returned for review by the EE.
Faculty Total	**32**	**25**	**78%**			

Total of reports received: 23

% of Undergraduate External Examiner Reports returned

	Natural Sciences	Engineering	Biochemistry and Immunology	Genetics and microbiology	Mathematics	Physics	Chemistry	Computer Science
(%) returned	83%	83%	75%	100%	100%	67%	40%	20%
No. Reports expected	6	6	4	3	2	3	5	5
No. Reports received	5	5	3	3	2	2	2	1

Legend: No. Reports expected, No. Reports received, (%) returned

Did you attend the Court(s) of Examiners online or in person

- In person: 17, 74%
- Online: 3, 13%
- Hybrid: 3, 13%

Comments on the standards of the programme/module(s) examined

	Significantly above average	Above average	Average	Below average
Standards compared to other HE institutions	18%	55%	27%	
Academic Standards	27%	55%	18%	
Achievement of students	18%	50%	27%	5%

25

Postgraduate Module Evaluation

School	No. of PGT Programmes	No. of PGT Programmes Evaluated	% of PGT Programmes Evaluated	Average response rate to PGT programme evaluations (%)	Comment/Actions arising from Module Evaluations
Biochemistry & Immunology	2	2	100%	20	Faster turnaround of assessment results, earlier notice of timetable changes Students requested more feedback on assignments All slides to be available on Blackboard Better notice of timetable changes Some modules should be delivered over longer period of time. Response: we will endeavour to address each of these issues.
Chemistry	0	N/A	N/A	N/A	We teach on the MSc in Energy Science course run by the School of Physics but do not have any PGT courses that are held in the school
Computer Science and Statistics	4	4	100%	N/A	SCSS offers 4 PGT Programmes which are disparate in size. Written programme/module surveys were conducted for the online Postgraduate Certificate in Statistics & Data Science, and Interactive Digital Media courses. Computer Science MSc consists of 4 strands, and each strand lead meets the strand student cohort several times during the semester for a detailed feedback session. The MSc in Statistics commenced in 2023/24 and the Course Director met with students on several occasions and also remained in touch by email. As a result of these meetings, the Course Director arranged for a dedicated MSc support help room, hosted by an experienced post-doctoral researcher, which was held weekly across both semesters. A systematic programme survey is planned for 2024/25.

School	No. of PGT Programmes	No. of PGT Programmes Evaluated	% of PGT Programmes Evaluated	Average response rate to PGT programme evaluations (%)	Comment/Actions arising from Module Evaluations
Engineering	11 (6 Diplomas/ 5 MSc/MPhil Note: Dip in Health and Safety in Construction did not run in 2023/24	100%	100%	N/A	Feedback discussed with the module coordinators and actions taken.
Genetics and Microbiology	1	1	100%	80%	We get student feedback both during the course and at the end of the course. This is done via Blackboard and via interview. The feedback is then collated and discussed among the coordinators, with a view to making any changes for future years. Overall, very positive feedback received re topics covered and teaching. Students felt that the lectures were clear and well-structured and covered the subject matter very well. All found the content intellectually challenging and stimulating. Clearer description of MCQ/short answer exam was suggested by one student.
Mathematics	2	0	0	N/A	Due to the small size of the courses, student feedback is given through exit interviews and meetings with class representatives.
Natural Sciences	4	4	100%		
Physics	2	2	100	N/A	The MSc in Quantum Science and Technology was established in the academic year 2021/22, so now in 2024/25 we are running the fourth iteration of the course content. In the first couple of years,

School	No. of PGT Programmes	No. of PGT Programmes Evaluated	% of PGT Programmes Evaluated	Average response rate to PGT programme evaluations (%)	Comment/Actions arising from Module Evaluations
					student survey responses led to us slightly restructuring the course workload to create a better balance between the first and second semesters. Adjustments have also been made to assessment deadlines, styles and weighting of continuous assessments. Given the diverse backgrounds of our students, we have settled on a fairer balance of problem sets, written tasks and oral exams. We have also expanded our non-assessed Soft Skills module, which incorporates essential skills such as science communication, and timed these events to help prepare our students for their group presentations. Additional mini-modules have been introduced to take full advantage of the breadth of expertise within the School of Physics, for example, an introduction to quantum chemistry. For the MSc in Energy Science, the planned change in assessment to GL7001 highlighted in the student's 22/23 feedback, has been applied to the 24/25 year. This MSc is shared with the Schools of Chemistry and Natural Sciences.
Faculty Total	**26**	**24**			

Postgraduate External Examiner Reports

School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
Biochemistry & Immunology	2	2	100	EE reported some PIs scoring projects on how the student engaged with a PD supervisor rather than evaluating the project as in the marking guidelines. Our response is to remind PIs of the marking criteria and asking them to adhere to them. EE reported that one MCQ was too easy and that the statistics in one module were too simple for this level. We have rectified this.
Chemistry	0	N/A	N/A	
Computer Science and Statistics	4	4	100%	For MSc Statistics & Sustainability, the external examiner suggested changes to the assessment procedure of a couple of modules. This will be implemented for 2025/26. In response to a query from the examiner for the MSc in Computer Science, the Course Director will monitor the mark range across modules, and whether there has been a drift upwards over time. They will report on this at the next course committee meeting and discuss any action required. External examiners for the MSc in Interactive Digital Media and online Postgraduate Certificate in Statistics & Data Science were satisfied with the overall progress of the programmes.
Engineering	11 (6 Diploma and 5 MSc/MPhil)	9 (Reports on Dip in Applied Building Repair and Conservation and MSc in Electronic Information Engineering are still to be submitted)	N/A	Dip in Project Management While there has been a change of ownership of this programme due to staff changes, it was positive to see the 3rd marker approach for the report assessment in place as previously referenced. Other recommendations are being considered which is also positive Although the programme is currently delivered by external part time staff, it would be recommended that TCD further embrace digital technologies and virtual learning environments to help with efficient management of student assignments, marking, exam results and records and reduce the reliance on paper where possible. This approach will help make data

School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
				storage more manageable and accessible as well as help facilitate remote working and lecturing in the future as higher education evolves. It is recommended that full time member of staff with a background in project management should be identified to oversee the programme and be involved in its delivery. This would help ensure a cohesive programme is provided to the students, complemented with external part time staff input which is also very valuable and unique.
				Diploma in Sustainable Energy and the Environment Standards of programme/modules are of very high quality and look to be attractive for students. The passing rate for students is similar to that of postgraduate studies at other higher education institutions. Support for students also seems to be adequate, although it is sometimes difficult to comment on lecturers' comments on students' reports because handwritten notes. The question arises whether there are item regulations for individual courses, where the rules for passing and grading, along with the deadlines, are given.
				Dip in Fire Safety Practice The course is structured appropriately across the year to develop student learning and their knowledge. The specification of the course is good and will deliver students who have a broad knowledge and skills. It will be a good idea to think how to include fire laboratory experiments to reinforce the student knowledge. Or make some arrangement with other fire institution (for example FireSERT at Ulster University) to organise a CPD lab application for fire spread, flammability, smoke movement and compartment flash over. Including fire experiments into the course

School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
				will attract and increase more the student number. For the benefit of course future accreditation by the IFE and increase recent fire technology and materials code practice to the course, it will be useful to see staff joining the membership of The Institution of Fire Engineers (IFE).

Dip in Construction Law and Contract Administration The programme is well designed with a mixture of module subjects that complement one another and together satisfy the programme intended learning outcomes. The programme compares favourably with other similar courses. The closed book examinations in the form of two papers are a real test of student understanding.

Dip in Engineering for Climate Action The scope of the material delivered is very wide ranging and encompasses all elements of climate action. It was refreshing to see all three pillars of sustainability represented within the programme in some way or another. The stakeholder engagement aspect of the programme is worth mentioning as it is an element which is often overlooked. The mix between TCD staff and external staff is one of the strengths of this programme and this should continue to be encouraged. The programme team should consider the following: - Because CA forms such a large element of the programme, I would also encourage the use of standard format for CA so students understand how to generate a professional report. - All CA should have an element of feedback to the student so they are aware of their strength weaknesses and areas for improvement. - For CA the marking rubric and breakdown of marks should be provided to the external |
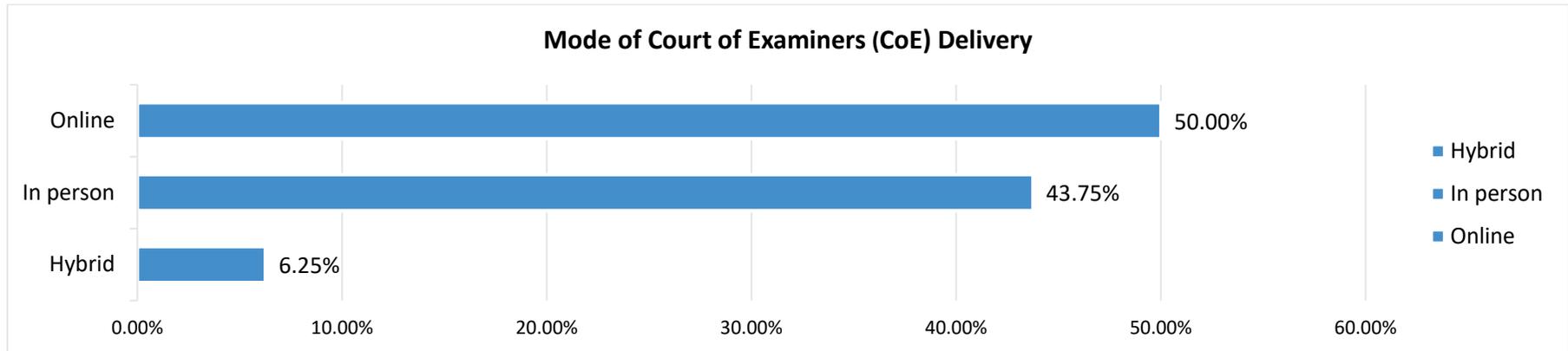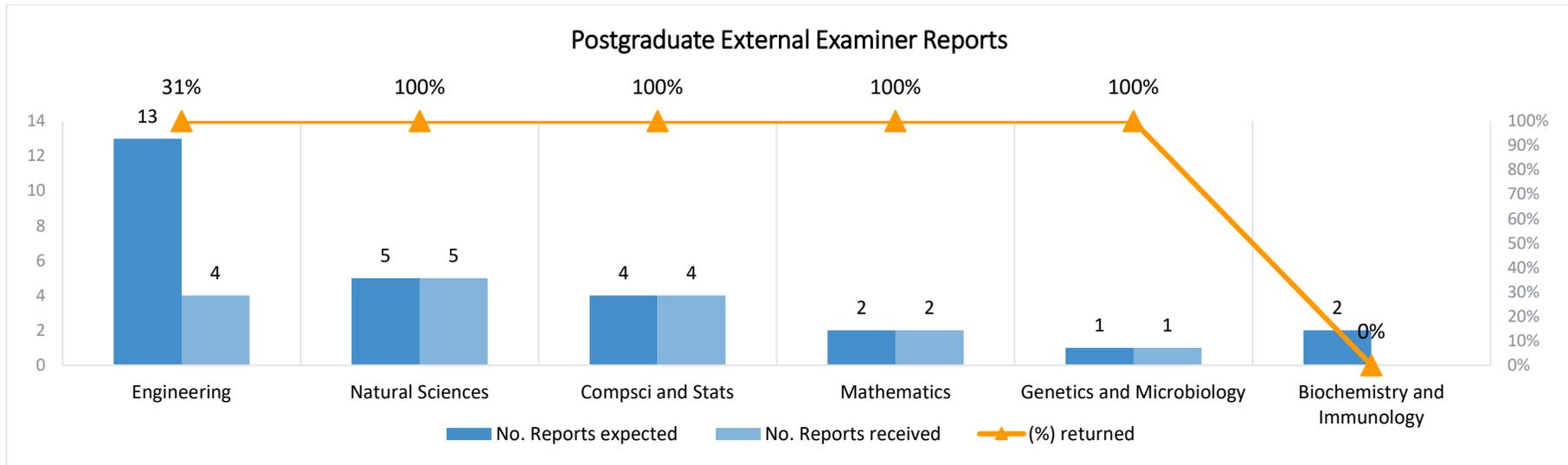
School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
				examiners and student alike so consistency/ appropriateness of marking can be assessed and that students understand where marks are awarded or not. MSc in Engineering [Environmental, Structural & Geotechnical/Transport/ Sustainable Energy/4 Micro-credentials in Transport Modelling & Planning; Advanced Geo-spatial Analysis using GIS; Solar Energy Conversion & Application; Air Pollution: Monitoring, Assessment and Control] The curriculum for the Structural Engineering strand is of a very good standard, judging mainly by the quality of the examination papers and the range of questions. There is some overlap between a few modules which leaves room for harmonisation and coverage of additional structures-related topics. There is room for improvement in terms of the way in which the assessment of dissertations is presented. It would be helpful to have a standard form that is completed by two assessors, which also provides a justification for the individual and agreed dissertation marks. The School is also encouraged to reinstate MSc vivas to help with the assessment of the dissertation work of the student. Prof. Eoghan Clifford from the University of Galway noted the following; The curriculum design and content is coherent and the content appropriate for the programme streams/options that are offered. A particular strength is the variety of streams and the options these offer students to specialize both in terms of their dissertations and modules. The teaching and dissertations also benefit from existing staff research expertise and external teaching from industry and other public sector experts where required. This provides a very useful point of reference for students and links teaching with practice. In terms of

School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
				potential areas of improvement to consider, the module offering may be refined to limit overlap and where there is consistently low uptake of a module, the presence of the module could be reviewed. MSc in Biomedical Engineering The External Examiner for the MSc is also acts as extern for the BAI/MAI BME stream and did not make any specific references to the MSc programme. MPhil Music and Media Technologies This is an ambitious, high quality programme driven by an excellent team. It is clear that the students are supported very well throughout. There have been some minor changes to module configurations and increased subject offerings which have enhanced the programme further. MSc in Mechanical Engineering / Zero-Carbon Technology / Micro-credential in Low Carbon Power Technology The External Examiner for the MSc is also acts as extern for the BAI/MAI BME stream and made reference to the sample of three MSc projects and found the standards to be very similar to that of his own University.
Genetics and Microbiology	1	1	100	The external examiner was very pleased overall and considered our course commensurate with similar offerings in major UK universities in which the examiner has been involved. The external examiner suggested that we review the process of supervision and grading of literature reviews and dissertations/theses. We have always had at least two markers, but the external examiner suggested that we should also include the supervisor as one of these two markers.
Mathematics	2	2	100	Generally very positive comments from both external examiners, no immediate action required.

School	No of External Examiner Reports Expected (PG)	No of External Examiner Reports Returned (PG)	% of External Examiner Reports Returned (PG)	Comment/Actions arising from EE Reports
Natural Sciences	4	4	100%	All Reports have been returned to Programme Directors – one report was returned outside the current digital submission process.
Physics	N/A	N/A	N/A	For the Schools MSc in Quantum Science and Technology, an external examiner was appointed for 24/25. The report will be submitted at the end of the academic year. The MSc in Energy Science has not successfully recruited an EE for 23/24. This process is still underway.
Faculty Total	**24**	**22**	**92%**	

Total of reports received: 16

Postgraduate External Examiner Reports

	Engineering	Natural Sciences	Compsci and Stats	Mathematics	Genetics and Microbiology	Biochemistry and Immunology
No. Reports expected	13	5	4	2	1	2
No. Reports received	4	5	4	2	1	
(%) returned	31%	100%	100%	100%	100%	0%

Mode of Court of Examiners (CoE) Delivery

- Online: 50.00%
- In person: 43.75%
- Hybrid: 6.25%

Legend: Hybrid, In person, Online

Professional Accreditation

SCHOOL	ACCREDITED PROGRAMME	PROFESSIONAL OR STATUTORY BODY	YEAR OF MOST RECENT ACCREDITATION	IF ACCREDITATION TOOK PLACE IN 2022/23, SPECIFY WHETHER IT WAS IN PERSON OR VIRTUALLY	Comment if any conditions resulted from Accreditation Report outcomes e.g. reduced period of accreditation	Actions taken in response to accreditation outcomes
School of Chemistry	**B.A. Mod Chemistry** **B.A. Mod Chemistry with Molecular Modelling** **B.A. Mod Medicinal Chemistry** **B.A. Mod Chemistry with Biosciences**	Royal Society of Chemistry	To Apply for accreditation in 2024/25			
School of Computer Science and Statistics	**B.A.I./M.A.I. - Computer Engineering** **BA/MCS Integrated Computer Science**	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person		
School of Engineering	**B.A.I/M.A.I. - Civil, Structural & Environmental Engineering**	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	B.A.I./M.A.I. - Computer Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	B.A.I./M.A.I. - Electronic Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		

SCHOOL	ACCREDITED PROGRAMME	PROFESSIONAL OR STATUTORY BODY	YEAR OF MOST RECENT ACCREDITATION	IF ACCREDITATION TOOK PLACE IN 2022/23, SPECIFY WHETHER IT WAS IN PERSON OR VIRTUALLY	Comment if any conditions resulted from Accreditation Report outcomes e.g. reduced period of accreditation	Actions taken in response to accreditation outcomes
	B.A.I./M.A.I. - Electronic & Computer Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	B.A.I./M.A.I. - Mechanical & Manufacturing Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	B.A.I./M.A.I. Biomedical Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	B.Sc. (Ing) / M.A.I. (optional) Engineering with Management	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	MSc in Engineering (Civil)	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	MSc in Mechanical Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	BSc in Environmental Science and Engineering	Engineers Ireland				

SCHOOL	ACCREDITED PROGRAMME	PROFESSIONAL OR STATUTORY BODY	YEAR OF MOST RECENT ACCREDITATION	IF ACCREDITATION TOOK PLACE IN 2022/23, SPECIFY WHETHER IT WAS IN PERSON OR VIRTUALLY	Comment if any conditions resulted from Accreditation Report outcomes e.g. reduced period of accreditation	Actions taken in response to accreditation outcomes
	M.A.I. (optional year 5) - eligibility for Chartered Engineer status by Engineers Ireland for all seven programmes	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	MSc in Electronic Information Engineering	Engineers Ireland	March 2022 5 years Re-accreditation in 2025/2026	In-person 21/22		
	Additional: Diploma programmes already accredited by Engineers Ireland. One-off accreditation required only – accounts for 20 hours of annual 35-hour requirements for Chartered Membership: Applied Building Repair and Conservation Construction Law and Contract Admin 3. Environmental Monitoring, Assessment and Engineering	Engineers Ireland	To apply for accreditation - potentially in 2025/2026	N/A		

SCHOOL	ACCREDITED PROGRAMME	PROFESSIONAL OR STATUTORY BODY	YEAR OF MOST RECENT ACCREDITATION	IF ACCREDITATION TOOK PLACE IN 2022/23, SPECIFY WHETHER IT WAS IN PERSON OR VIRTUALLY	Comment if any conditions resulted from Accreditation Report outcomes e.g. reduced period of accreditation	Actions taken in response to accreditation outcomes
	Fire Safety Practice Health and Safety in Construction Project Management Sustainable Energy and Environment Diploma in Engineering for Climate Action (New)					
School of Physics	**B.A. (Moderatorship) in Physics**	Institute of Physics (IoP)	23/24	In person		Unrestricted reassessments were an issue, capping was required. The proportion of first and 2:1's in our degrees over previous 5 years was questioned in relation to sector norms in the Ireland and the UK. The TEP policy of uncapped re-sits was also questioned, both of which we have been asked to address.

SCHOOL	ACCREDITED PROGRAMME	PROFESSIONAL OR STATUTORY BODY	YEAR OF MOST RECENT ACCREDITATION	IF ACCREDITATION TOOK PLACE IN 2022/23, SPECIFY WHETHER IT WAS IN PERSON OR VIRTUALLY	Comment if any conditions resulted from Accreditation Report outcomes e.g. reduced period of accreditation	Actions taken in response to accreditation outcomes
	B.A. (Moderatorship) in Physics & Astrophysics					(Continued from cell above) Actions to address unrestricted uncapped re-sits through derogation have progressed through committees in consultation with the IOP and a formal response is in progress. The process is now completed, and the accreditation is valid until 2027.
Genetics and Microbiology	**N/A**					

Quality Initiatives

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
Biochemistry & Immunology	We have designated a dedicated Blackboard support staff member who ensures all material is uploaded and is available to students as required	Our school had to response quickly to the loss of teaching staff due to the secondment of staff to college officer posts and research projects and the subsequent understandable delay in recruitment of replacements. Staff responded generously to help maintain teaching and research standards.	We still need large capacity venues for lectures at the sophister level that involve students from all 4 moderatorships. An ideal location exists in Trinity Central, but this is currently not available on CMIS and must be booked through CTU, complicating and slowing the booking process significantly.
Chemistry	Applied for RCS accreditation in 2023/2024: - Capping re-sit to 60% - More SS problem solving tutorials - RCS career talks	Capping re-sit to 60%: we will see impact at the end of the academic year.	In answer to the RSC accreditation report we will seek the following derogations: a. Reduction of the Current 60% Cap on Resits to 40%: The RSC requires that the cap on reassessment marks be reduced from 60% to 40%, in alignment with best practices observed in other accredited institutions. We have checked the accredited institutions (in Ireland, these include UCD, DCU, TUD, and University of Galway). Our review indicates that this policy is already in place in these universities, and implementing this change will ensure compliance with accreditation standards. b. Derogation request pending: For our 10 ECTS credit modules JF: CHU11101 and CHU11102 SF: CHU22201 and CHU22202 A minimum mark requirement of 35% in the Examination component and 40% in the Laboratory/Continuous Assessment component will be needed.

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
Computer Science and Statistics	One of the most important challenges in teaching and learning are the opportunities and challenges brought about by the rapid development of Artificial Intelligence, in particular generative AI. The School Generative AI Workgroup has continued its work to look at the implications for teaching, learning and assessment. It has furthermore made recommendations as to how to cite GenAI sources and how students might be able to evidence the incremental development of coursework. As part of the School's Industry Engagement strategy, the School responded to a call for funding from the HCI Enterprise Collaboration Activities Fund (€200,000) and secured an award of €30,000 to enable the School work with a consultant/agency to scope additional opportunities to engage with industry together with developing a media pack to support such engagement. This work is currently underway. The School has been examining how it	The Generative AI Workgroup continues to review emerging cases for practical and regulatory implications, assess guidelines from the College and international universities, and conduct working sessions focused on best practices. This is an ongoing effort requiring continuous engagement. Additionally, the School is complementing and informing these activities with research in Artificial Intelligence and Education. The School has addressed ongoing issues where students initially enrolled in the 5-year MSc pathway later opt to leave after four years with a BA Mod degree (with the risk of not having undertaken a capstone project). The Undergraduate Teaching and Learning Committee and the Director of UG Teaching and Learning have reviewed regulations and procedures for handling such cases. We appreciate the collaboration with the Senior Lecturer and College colleagues,	The School continues to struggle to reach its full faculty complement and thereby reduce its rising student staff ratio which has been in evidence for a number of years. This ratio is a key metric into International ranking agencies (e.g. QS Global Subject Rankings) and in part hinders our ability to retain our top 100 global subject ranking. The problem is twofold: rising student FTEs aligned to the E3 initiative and falling faculty numbers, initially due to a recruitment freeze but thereafter due to staff resignations and retirements. While a significant recruitment drive has and continues to be undertaken resulting in the successful recruitment of ten new faculty members who took up employment during the 2022-24 academic years, however, notwithstanding the considerable resources associated with this volume of recruitment a further six appointments will need to be made during the 2024-25 academic year. Maintaining this pace of recruitment is challenging for the School and exacerbated by current salaries and the cost of living in Dublin. These challenge both recruitment and retention of staff. This together with similar challenges, lack of promotional opportunities and delays in Professorial staff appointments is hampering our ability to deliver existing and future programmes to the exacting standards that we constantly seek to deliver. Due to ongoing delays, access to adequate, contiguous

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	might incorporate Sustainability into the undergraduate curriculum. To this ends a new module is currently under development for introduction in the academic year 26/26. The School has undertaken to develop a module that is constructed to speak specifically to the sustainability challenges that pertain to Computer Systems. Notwithstanding, this standing educational agenda item will be incorporated within all modules to consider any particular sustainability issues. The School has refined the Demonstrator and Teaching Assistant Allocation (DAS) system to improve the annual demonstrator allocation process, enhance efficiency, and strengthen stakeholder communication. The system is now fully operational and is now fully incorporated within School processes.	whose insights contributed to clarifying the regulations. The planned updates, to be implemented next academic year, aim to resolve ambiguities, uphold degree quality and enhance the student learning experience. The School has initiated the development of a bespoke Student Project Management System to streamline the administration of Final Year Projects, Master's Dissertations, and similar projects. This system will enhance oversight, coordination, and efficiency in managing student projects. The School has a dedicated initiative to ensure teaching quality, gathering anonymized student feedback for each module through surveys and qualitative insights. These responses are computed, and individual module leaders are provided with their module score together with the average scores for the School for relative comparison. Further to this, the DUTL and ADUTL meet regularly with Class	space continued to pose serious difficulties for the School this year. The E3 Learning Foundry has encountered several delays with the current completion date now Q2 2025 with occupancy expected in September 2025. This will provide welcome additional high quality undergraduate teaching space. The refurbishment of the Trinity Research & Innovation (TR&I) space in Westland Row has now been completed again providing much-needed research, faculty and administrative space for the School. Access to high-quality space is a requisite for delivering on School ambition. The recruitment of PhD students in the current environment is and continues to be an ongoing challenge. The problems include fees (EU and NEU); the low level of stipends notwithstanding the increase in College and SFI awards, to which the School is aligning its awards; increasing cost of living, lack of (affordable) accommodation in Dublin together with an extremely buoyant jobs market. The falling PhD numbers is further creating a shortage of qualified demonstrators essential to support undergraduate teaching. As a first step to alleviate some of these difficulties, the College should address both EU and NEU fee issues and accelerate opportunities and relax constraints associated with Postdoc undertaking limited lecturing. The school

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		Representatives and the School Convenor to capture qualitative feedback.	wishes to see this as part of the mandatory training for such positions. The School has also intensified efforts around recruiting Industry-funded PhDs whereby PhD candidates continue to work for a company and undertake research in an area aligned with the core company activities. The number of such industry-funded PhD positions is showing small but promising increases.
Engineering	The School introduced an industry seminar series in 2023/24 for students in all years of the Engineering, Engineering with Management and Environmental Science and Engineering courses which saw guest speakers from industry attend a weekly slot. We were able to facilitate this for all students due to the creation of an industry slot in the timetable. - The MAI project allocation process was redesigned for the year 2023/24 with the aim of maintaining student choice and ensuring academics were allocated an equal number of projects. - The School hosted three new events in 2023/24: Researcher Day, UG Design Day and	In 2024/25, the School underwent its School Quality Review where all activities of the School were reviewed. The final report is pending. - The School has developed a Research Strategy and an Industry Strategy, both of which will be launched in the coming months. - Work on preparations for the E3LF has ramped up in 2024/25 with the projected handover to College in mid-May 2025 and teaching to begin in September. The focus has been on confirming the equipment lists, procurement, staffing and timetabling.	The School notes that a new academic year structure has been agreed by College but the School feels that this does not adequately address the issues facing Engineering. The School would favour the introduction of a STEM specific academic year structure which would provide an appropriate number of weeks to deliver on our programmes and to allow sufficient time for marking and the publication of results. - Colleges have issued a policy around Open AI which the School feels does not provide Schools with sufficient guidance on how to allow for the use of these resources whilst ensuring the integrity of the assessment process. - The School is experiencing ongoing issues with office, lab and teaching space. While the opening of the E3LF will ameliorate some of the challenges around teaching space, the lack of suitable office space for incoming staff and PhD students remains an issue. There have also been delays in carrying out urgent maintenance of existing space causing health and safety concerns for

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
	Postgraduate Research Day which gave students and staff the opportunity to showcase their work and to network with students/colleagues in other disciplines, academic staff and representatives from industry.		the occupants of that space.
Genetics and Microbiology	Two new modules are shared by all moderatorships, bringing together different expertise within the School and greatly improving the modules they substitute. Implementation of the use of a detailed feedback form to give student feedback in projects and reviews, enhancing student learning Provision of model answers for written SS exams to help moderation	The new pilot process has normalised the feedback for both the Genetics and Human Genetics modules. New method to collect module feedback to reach over 80% response rate.	Senior Sophister Capstone projects: There remains a difficulty in financing wet laboratory SS Capstone Projects, which can cost a few thousand euro per student. Currently these projects tend to be paid for from our PIs' research funds, and budgets can be tight, so we would welcome some contribution from College funds. Infrastructure is an issue. Lecture theatres and laboratories need to be upgraded, and lack of space is especially problematic as our student numbers are rising year on year. To provide excellent student experience in STEM, and to be competitive with offerings from other national and international universities, investment in College infrastructure is urgently required. There was a comment from an external examiner about being conscious of the balance of research and teaching. In particular, it was noted by the Microbiology external examiner that teaching was taking up a lot of time, which makes it challenging for academics to also focus on their research portfolios.
Mathematics	· Online module material: In 2022/23 the school had initiated a programme, initially funded through Trinity INC, of	Created a number of modules with shared lectures such that the assessments can be suitably	Teaching Spaces: While the School manages two lecture theatres and a number of seminar rooms, much of the teaching takes place in spaces managed outside

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
	developing new online materials for service modules. This provides applications of mathematics to topics the students will see later in their other, particularly non-mathematics, modules. The goal is to provide motivation for the mathematical techniques being taught and to help the students have an improved recall of the mathematical concepts. This was extended to additional modules in 2023/24. · The maths help room is run daily during term and is an opportunity for students in all maths modules to come and ask mathematics, statistics and theoretical physics questions. This provides important additional support for students who are struggling with their course materials or who need help with assignments. Due to the location of the room, there were significant access issues. In 2023/24, the School secured funding through the College Strategic Initiatives Fund to develop an accessible space in the school basement library that can be used for the help room, for meetings	adapted to different years, such as 2nd and 3rd year. · Created new modules to offer a better selection of sophister modules in mathematics. · Modified mathematics offerings as part of the Trinity Joint Honours Program to enhance future module offerings and feasibility. · Extended the help room offerings to include focused evening review sessions for Science students. · Initiated a re-organisation of the library to provide more access and student space. This will be coordinated with the student Mathsoc to connect the library to the society rooms.	the school. Issues with some of these spaces range from a lack of suitable teaching equipment e.g. blackboards, to general up-keep. The Goldsmith Hall lecture room in particular requires improvement. Recruitment for the MSc in "High Performance computing": The global marketing campaign, particularly in China and India, has generated much higher applicant numbers. This generally welcome development has led to increased challenges in handling applications. Elements of the application process occur outside the school, notably in AR, and delays have caused problems in securing acceptances. Timetabling: The school, in coordination with CTU and the Common Architecture office, has made significant modifications to the mathematics offerings in order to address issues with timetabling. This will hopefully lead to future improvements but there remain significant difficulties in providing students with sufficient module choices due to timetabling constraints. There are related issues where students are scheduled with excessively long blocks of lectures and lectures at late hours.

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
	with students and for other school activities. These works have started in 2024/25. · More transparent marking for UGT modules was implemented following the comments of the external examiner in Pure Mathematics. · In the PGT M.Sc. in "Quantum Fields, Strings and Gravity" exit interviews with all students were conducted and led to some re-arrangement/re-scheduling of the material taught in the first semester.		
Natural Sciences	*At UG Level* • Maintenance and expansion of field-based teaching. • Develop new and diverse assessment approaches to work with the use of Gen-AI. • Approach to development of capstone projects across the school, this is inspired by the taught modules that students take and allows students to take full ownership of the project. *At PG Level* • Implementation of ongoing	*At UG Level* • Develop a school-wide policy for students in relation to extension requests for CA exercises. • Better alignment of teaching meetings across programmes to allow greater oversight of content delivered and assessments undertaken. • We have started the process of developing an automated and anonymous approach to module evaluation.	*At UG Level* • One key issue for us was the timing of the annual re-assessment session that impacted residential field courses run in Week 3 – this has/will be alleviated with the proposed changes to the AY structure *General* • Teaching facilities: Increased student numbers continue to put pressure on teaching quality and student experiences. This is relevant to both UG and PG programmes. • Costs of education: students have voiced concern about the rising additional costs of their education, for example because of residential fieldtrips. This is relevant to both

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
	initiatives within the PG Renewal Programme • Streamlining and alignment of programme structures across School led MScs (ongoing) *General* • The School are actively continuing to centralise several processes at both UG and PG level to normalize procedures and provide greater transparency and communication across all programmes and are adopting the new rules and guidance from the PG renewal programme.	*General* • The School are actively in the process of centralising several processes at both UG and PG level to normalize procedures and provide greater transparency and communication across all programmes and are adopting the new rules and guidance from the PG renewal programme.	UG and PG programmes. • Cost of living and associated need for students to have jobs on the side. • Sheer student numbers across all taught programs, which significantly impact on the number of undergraduate Capstone and PG dissertation projects staff are required to supervise, which in turn impacts on the quality of supervision and projects. • Research costs of undergraduate Capstone and PG dissertation projects, particularly when including field or lab-based research, which are not normally costed for by standard annual methods. This has potential knock on impacts for the supervisors and students.
Physics	In 23/24, the School created a new role, Physics Undergraduate Lab Coordinator. This role was created to standardize undergraduate labs specifically regarding the training, marking and feedback processes associated with students.	In November 24/25, the School of Physics completed a Quality Review. As part of this process, the reviewers have recommended some enhancements to processes associated with the provision of teaching and learning. The School is currently reviewing the feasibility of these processes, which include student survey processes. The School has also added an EDI question to all surveys, with the intention of generating more data to support the School's global EDI initiatives. The School has revamped its module Physics for Postgraduate Teaching	No comment required.

School	Please outline here three quality initiatives undertaken by the School in 2023/24 that you wish to showcase as good practice/enhancement activities.	Please provide an overview of any developments/enhancements/impacts that occurred within the School during 2024/25	Please outline any quality issues that fall outside the remit of the School for escalation to Faculty or College-level
		Assistants to include a greater emphasis on topics such as teaching in multicultural classrooms, unconscious bias and cognitive workload.	

Appendix A: Faculty Retention Data: Retention by Standing & Faculty

Standing & Retention	STEM	%
1	**1027**	**26.77%**
PROGRESSED SAME COURSE	884	86.08%
REPEAT SAME COURSE	31	3.02%
TRANSFERRED OTHER COURSE	44	4.28%
NOT RETAINED	68	6.62%
2	**901**	**23.49%**
PROGRESSED SAME COURSE	864	95.89%
REPEAT SAME COURSE	10	1.11%
TRANSFERRED OTHER COURSE	8	0.89%
NOT RETAINED	19	2.11%
3	**885**	**23.07%**
PROGRESSED SAME COURSE	835	94.35%
REPEAT SAME COURSE	23	2.60%
TRANSFERRED OTHER COURSE	3	0.34%
COURSE COMPLETED		0.00%
COURSE COMPLETED - EXIT		0.00%
NOT RETAINED	24	2.71%
4	**837**	**21.82%**
PROGRESSED SAME COURSE	186	22.22%
REPEAT SAME COURSE	16	1.91%
TRANSFERRED OTHER COURSE	1	0.12%
COURSE COMPLETED	493	58.90%
COURSE COMPLETED - EXIT	130	15.53%
NOT RETAINED	11	1.31%
5	**186**	**4.85%**
REPEAT SAME COURSE		0.00%
COURSE COMPLETED	185	99.46%
NOT RETAINED	1	0.54%
Grand Total	**3836**	**100.00%**

Table 5. Retention by Standing & Gender & Faculty	STEM				STEM Total
Standing & Retention	Female	Male	Non Binary	Prefer not to say	
1	**477**	**536**	**1**	**13**	**1027**
PROGRESSED SAME COURSE	413	462	1	8	884
REPEAT SAME COURSE	13	17		1	31
TRANSFERRED OTHER COURSE	22	18		4	44
NOT RETAINED	29	39			68
2	**412**	**486**	**3**		**901**
PROGRESSED SAME COURSE	401	460	3		864
REPEAT SAME COURSE	7	3			10
TRANSFERRED OTHER COURSE		8			8
NOT RETAINED	4	15			19
3	**398**	**483**		**4**	**885**
PROGRESSED SAME COURSE	387	445		3	835
REPEAT SAME COURSE	4	18		1	23
TRANSFERRED OTHER COURSE	1	2			3
COURSE COMPLETED					
COURSE COMPLETED - EXIT					
NOT RETAINED	6	18			24
4	**380**	**453**		**4**	**837**
PROGRESSED SAME COURSE	62	123		1	186
REPEAT SAME COURSE	4	12			16
TRANSFERRED OTHER COURSE	1				1
COURSE COMPLETED	270	220		3	493
COURSE COMPLETED - EXIT	37	93			130
NOT RETAINED	6	5			11
5	**40**	**146**			**186**
REPEAT SAME COURSE					
COURSE COMPLETED	40	145			185
NOT RETAINED		1			1
Grand Total	**1707**	**2104**	**4**	**21**	**3836**

Table 7. Retention by Standing & Fee Status & Faculty	STEM		STEM Total
Standing & Retention	EU	NEU	
1	**26.57%**	**28.11%**	**26.77%**
PROGRESSED SAME COURSE	86.02%	86.43%	86.08%
REPEAT SAME COURSE	2.82%	4.29%	3.02%
TRANSFERRED OTHER COURSE	4.40%	3.57%	4.28%
NOT RETAINED	6.76%	5.71%	6.62%
2	**23.07%**	**26.31%**	**23.49%**
PROGRESSED SAME COURSE	95.71%	96.95%	95.89%
REPEAT SAME COURSE	1.17%	0.76%	1.11%
TRANSFERRED OTHER COURSE	1.04%	0.00%	0.89%
NOT RETAINED	2.08%	2.29%	2.11%
3	**23.07%**	**23.09%**	**23.07%**
PROGRESSED SAME COURSE	94.29%	94.78%	94.35%
REPEAT SAME COURSE	2.47%	3.48%	2.60%
TRANSFERRED OTHER COURSE	0.39%	0.00%	0.34%
COURSE COMPLETED	0.00%	0.00%	0.00%
COURSE COMPLETED - EXIT	0.00%	0.00%	0.00%
NOT RETAINED	2.86%	1.74%	2.71%
4	**22.38%**	**18.07%**	**21.82%**
PROGRESSED SAME COURSE	22.36%	21.11%	22.22%
REPEAT SAME COURSE	2.01%	1.11%	1.91%
TRANSFERRED OTHER COURSE	0.13%	0.00%	0.12%
COURSE COMPLETED	61.71%	35.56%	58.90%
COURSE COMPLETED - EXIT	12.58%	40.00%	15.53%
NOT RETAINED	1.20%	2.22%	1.31%
5	**4.91%**	**4.42%**	**4.85%**
REPEAT SAME COURSE	0.00%	0.00%	0.00%
COURSE COMPLETED	99.39%	100.00%	99.46%
NOT RETAINED	0.61%	0.00%	0.54%
Grand Total	**100.00%**	**100.00%**	**100.00%**

Table 8 (b) : Faculty STEM by programme

Programme	Retained	1 Female EU	1 Female NEU	1 Male EU	1 Male NEU	1 Non Binary EU	1 PNS EU	1 PNS NEU	2 Female EU	2 Female NEU	2 Male EU	2 Male NEU	2 Non Binary EU	3 Female EU	3 Female NEU	3 Male EU	3 Male NEU	3 PNS EU	4 Female EU	4 Female NEU	4 Male EU	4 Male NEU	4 PNS EU	5 Female EU	5 Female NEU	5 Male EU	5 Male NEU	Total	% of Not Retained
Biological and Biomedical Sciences	PROGRESSED SAME COURSE	135	41	63	14			1	130	39	56	7		147	26	47	9		2									717	
	REPEAT SAME COURSE			1					2							1	1		2	1	1							9	
	TRANSFERRED OTHER COURSE	3		3			2				1								1									10	
	COURSE COMPLETED																		152	20	55	4						231	
	NOT RETAINED	10	1	5					2		4			2					1									25	
Biological and Biomedical		148	42	72	14	0	2	1	134	39	61	7	0	149	26	48	10	0	158	21	56	4	0	0	0	0	0	992	
Chemical Sciences	PROGRESSED SAME COURSE	40	1	20					36		24	1		26	2	20												170	
	REPEAT SAME COURSE	1		3					1					1		2			1		1							11	
	TRANSFERRED OTHER COURSE	8		2			2				2			1														15	
	COURSE COMPLETED																		23	1	16		1					41	
	NOT RETAINED	5		2					1		2			2	1	1			1									15	5.95%
Chemical Sciences TOTAL		54	1	27	0	0	2	0	38	0	29	1	0	30	3	23	0	0	25	1	17	0	1	0	0	0	0	252	
Computer Science	PROGRESSED SAME COURSE	24	8	60	15	1	2		16	5	68	16	1	22	5	81	28		10	2	24	7	1					396	
	REPEAT SAME COURSE	1									1			1		1	1				2							7	
	TRANSFERRED OTHER COURSE	2		1							1																	4	
	COURSE COMPLETED																							5		29	5	39	
	COURSE COMPLETED - EXIT																		10	1	24	6						41	
	NOT RETAINED			4	2						3	2				1				1	1					1		15	2.99%
Computer Science TOTAL		27	8	65	17	1	2	0	16	5	73	18	1	23	5	83	29	0	20	4	51	13	1	5	0	30	5	502	
Computer Science and Language	COURSE COMPLETED																		4		7	1						12	
Computer Science and Language		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	7	1	0	0	0	0	0	12	
Computer Science, Linguistics and a	PROGRESSED SAME COURSE	5	1	7	1				4		12			4	1	7												42	
	REPEAT SAME COURSE			1										1		2		1										5	
	TRANSFERRED OTHER COURSE	1	1																									2	
	NOT RETAINED	2			1											2												5	9.26%
Computer Science, Linguistics		8	2	8	2	0	0	0	4	0	12	0	0	5	1	11	0	1	0	0	0	0	0	0	0	0	0	54	
Engineering	PROGRESSED SAME COURSE	53	6	122	15		1		47	13	102	24	1	54	7	112	16		41	3	76	7						700	
	REPEAT SAME COURSE	4	1	5	3				1	1						4					4							23	
	TRANSFERRED OTHER COURSE	1			3																							4	
	COURSE COMPLETED																							28	3	86	13	130	
	COURSE COMPLETED - EXIT																		16	7	33	21						77	
	NOT RETAINED	2	1	8	2						1					5	1				3							23	2.40%
Engineering TOTAL		60	8	135	23	0	1	0	48	14	103	24	1	54	7	121	17	0	57	10	116	28	0	28	3	86	13	957	
	PROGRESSED SAME COURSE	4		22	2				8	1	21	1		10	1	10	2		4		9							95	
	REPEAT SAME COURSE			1											1	1					1							4	
	TRANSFERRED OTHER COURSE			1							2																	3	
	COURSE COMPLETED																							4		11	1	16	
	COURSE COMPLETED - EXIT																		3		8	1						12	
Engineering with Management	NOT RETAINED																				1							2	1.52%
Engineering with Management		4	1	24	2	0	0	0	8	1	23	1	0	10	2	11	2	0	7	0	19	1	0	4	0	11	1	132	

Table 8 (b) : Faculty STEM by programme

Programme	Retained	1 Female EU	1 Female NEU	1 Male EU	1 Male NEU	1 Non Binary EU	1 Prefer not to say EU	1 Prefer not to say NEU	2 Female EU	2 Female NEU	2 Male EU	2 Male NEU	2 Non Binary EU	3 Female EU	3 Female NEU	3 Male EU	3 Male NEU	3 Prefer not to say EU	4 Female EU	4 Female NEU	4 Male EU	4 Male NEU	4 Prefer not to say EU	5 Female EU	5 Female NEU	5 Male EU	5 Male NEU	Total	% of Not Retained
Environmental Science and Engineering	PROGRESSED SAME COURSE	12	1	8					11	4	11			5	1	7	1												61	
	REPEAT SAME COURSE						1																						1	
	TRANSFERRED OTHER COURSE			2																									2	
	NOT RETAINED	1		1																									2	3.03%
Environmental Science and Engineering TOTAL		13	1	11	0	0	1	0	11	4	11	0	0	5	1	7	1	0	0	0	0	0	0	0	0	0	0	66	
Geography and Geoscience	PROGRESSED SAME COURSE	26	1	18	1				40	4	14		1	29	1	19		1											155	
	REPEAT SAME COURSE								1																				1	
	COURSE COMPLETED																		21	2	28	1	1						53	
	NOT RETAINED			1															1	1									3	1.42%
Geography and Geoscience		26	1	19	1	0	0	0	41	4	14	0	1	29	1	19	0	1	22	3	28	1	1	0	0	0	0	212	
Management Science and Information Systems Studies	PROGRESSED SAME COURSE	6	2	20	1				7	2	21			11	3	12	3											88	
	REPEAT SAME COURSE																				1							1	
	TRANSFERRED OTHER COURSE			1																								1	
	COURSE COMPLETED																		16	2	15							33	
	NOT RETAINED			1																								1	0.81%
Information Systems Studies TOTAL		6	2	22	1	0	0	0	7	2	21	0	0	11	3	12	3	0	16	2	16	0	0	0	0	0	0	124	
Mathematics	PROGRESSED SAME COURSE	6	3	24	1				7	2	18	5		13	1	24		1										105	
	REPEAT SAME COURSE			1					1		1					1												4	
	TRANSFERRED OTHER COURSE	1	1								2																	4	
	COURSE COMPLETED																		10		31		1					42	
	NOT RETAINED	2		5						1	2					3												13	7.74%
Mathematics TOTAL		9	4	30	1	0	0	0	8	3	23	5	0	13	1	28	0	1	10	0	31	0	1	0	0	0	0	168	
Physical Sciences	PROGRESSED SAME COURSE	21	2	23	4		2		17	2	27			10	1	20	1	1										131	
	REPEAT SAME COURSE	4		2												2	1				1							10	
	TRANSFERRED OTHER COURSE	4		4																								8	
	COURSE COMPLETED																		12		32							44	
	NOT RETAINED	2	1	4										1		5			1									14	6.76%
Physical Sciences TOTAL		31	3	33	4	0	2	0	17	2	27	0	0	11	1	27	2	1	13	0	33	0	0	0	0	0	0	207	
Theoretical Physics	PROGRESSED SAME COURSE	15		21			2		6		31		1	7		26												109	
	REPEAT SAME COURSE		1	1												1					1							4	
	TRANSFERRED OTHER COURSE			1												2												3	
	COURSE COMPLETED																		7		29	1						37	
	NOT RETAINED	2		2							1																	5	3.16%
Theoretical Physics TOTAL		17	1	25	0	0	2	0	6	0	32	1	0	7	0	29	0	0	7	0	30	1	0	0	0	0	0	158	
Grand Total		403	74	471	65	1	12	1	338	74	429	57	3	347	51	419	64	4	339	41	404	49	4	37	3	127	19	3836	