The University of Edinburgh
Internal Periodic Review

Undergraduate (UG) and Postgraduate Taught (PGT)
School of Engineering

Monday 31 March and Tuesday 01 April 2025

Contents

Executive summary

This report comprises the outcomes from the internal review of UG and PGT provision in the School of Engineering.

The review team was impressed with the commitment and enthusiasm shown by the staff and students that they met with during the review.

The review team found that the School has effective management of the quality of the student learning experience, academic standards, and enhancement and good practice.

The report provides **commendations** on the School's provision, **recommendations** for enhancement that the School will be asked to report progress on to the Senate Quality Assurance Committee, and suggestions on how to support developments.

Key commendations

The review team are pleased to offer commendations to the School across a range of areas related to its academic and support provision, with the key commendations being:

- **Student Support.** The review team **commends** the School for its work in implementing the new student support system and the provision of high quality support by the Student Support Office. Students were highly complimentary of the service and the support they receive from the team.

- **Student voice and representation.** The School is **commended** for its responsiveness to student voice and the range of effective ways it seeks student input, especially via the student representatives and the effectively managed Student Staff Liaison Committee system. The review team commends the School for listening to student feedback regarding issues with academic workload and recognising the need to address the issue.

- **Generative AI.** The review team **commends** the School for its efforts to increase the awareness and knowledge amongst the academic community on the use of GenAI by the student population, and in creating space for academics to experiment with using GenAI tools to improve the learning process.

Key recommendations

The top three **recommendations** identified by the review team for the School to prioritise are:

1) **Assessment workload.** The review team **recommends**, as a priority matter, that the School completes a mapping exercise across the core courses and core programme combinations to review assessment workload and identify clusters of submission times with a view to gaining a greater understanding of overall delivery of provision and its impact on students. It further **recommends** the School work proactively to identify and implement measures which reduce the pressures created by the assessment requirements of individual courses. This should include providing an assessment calendar/schedule for all year groups on each degree programme with clear coordination of assessment load and clear communication to students of expectations (e.g. expected time to be spent on each assessment). This exercise should also include a review of the assessment requirements of 10 credit courses, which were

perceived by students to have disproportionately high assessment demands compared to 20 credit courses.

2) **Use of rubrics in assessment and marking.** Students identified that assessments with specific rubrics and guidance on marking criteria were easier to engage with, and led to more specific and beneficial feedback. Where assessment rubrics are being used, the students receive them well but the use of assessment rubrics across the School is inconsistent. The review team **recommends** further development and use of rubrics and marking criteria across a greater range of courses, and suggests the School develops an assessment community of practice to help share knowledge and experience across disciplines.

3) **Student Support.** The role of the new Cohort Lead is not clearly defined, and thus the approach to delivering on the role's responsibilities is inconsistent across the different disciplines. In order to ensure students receive the same high quality experience across all disciplines, the review team **recommends** the School reviews the disciplines' various approaches to the Cohort Lead role, identifies best practice and implements a strategically planned and consistent approach across the disciplines.

Overall, the review team **recommends** the School focus on developing greater levels of consistency across all its teaching and learning provision. It was evident there was a high degree of local autonomy in course design and delivery, and the School would benefit by taking the opportunity to enhance the consistency of provision to achieve a positive impact on the student experience.

Commendations, recommendations and suggestions

Commendations

Key strengths and areas of positive practice for sharing more widely across the institution.

No.	Commendation	Report Section
1	The School has been undertaking an extensive review of its curriculum with a particular focus on graduate outcomes, attributes and skills. The School's subsequent reflection on the introduction of the common first year curriculum and its limitations which led to the reintroduction of more discipline-specific content in semester two of first year is **commended**.	2.2.1
2	The review team heard how new "backbone" courses seek to teach and develop graduate attributes and skills in a systematic and progressive manner, and run through each of the core engineering programmes. The review team **commends** the systematic approach the School is taking to developing core skills and graduate attributes across their programmes, and for implementing iterative improvements in response to student feedback.	2.2.1
3	Staff shared a **commendable** example of co-creation from Mechanical Engineering in pre-honours, which is positively included in the curriculum and which is an example of what is possible in terms of co-creation of both content and assessment.	2.2.5
4	The School is **commended** for creating space for academics to experiment with GenAI tools to improve the learning process, such as Prof Tim Drysdale's work.	2.2.6
5	The review team **commends** the practice of getting student feedback on their perceived assessment workload because it enhances the student voice, and there was acknowledgement from the UG and PGT communities that they believe there has been improvement with this issue.	2.3.1
6	Students identified that assessments with specific rubrics and guidance on marking criteria were easier to engage with, and led to more specific and beneficial feedback. The review team **commends** the School for working with education developers to help create rubrics and marking criteria that are clear to the students in terms of what it takes to achieve. The review team heard of the effective use of assessment rubrics in the Wind Energy course, which it further **commends.**	2.3.6 2.3.5
7	It is evident the School is engaged with improving the quality of assessment feedback provided to students. The review team **commends** the course organisers who are employing the use of verbal feedback or audio recordings as a quick and timely way of sharing feedback to students. PGT students commented on the positive experiences they have had with this method of feedback.	2.3.7
8	The School is **commended** for recent improvements in assessment feedback timescales. The School advised 89% of the current year assessments had been marked and feedback provided to students within the University's expected 3 week turnaround time. The	2.3.8

	students recognised the effort required to meet this target and articulated their appreciation of this.	
9	The review team **commends** the School's good practice in moderation activities, such as randomly sampled cross-marking where there are multiple markers performing an assessment of a cohort for the same task.	2.3.9
10	The School's implementation of the new student support model, which replaces the personal tutor model, has been highly successful. The review team **commends** the professional services team within the Teaching and Student Support Offices for their commitment to, and support for, UG and PGT students. The review team **commends** the Student Support Manager and her team of Student Advisors who are clearly working hard to give high quality pastoral support and information to students.	2.4.1
11	The review team **commends** cohort leader practices by Programme Directors in the provision of support to PGT students, where the success of the new student support model was clearly echoed through the student voice.	2.4.2
12	A **commendable** example of cohort leader best practice was given by the cohort leader of Chemical Engineering, who leads a series of events used for community learning, academic engagement and creating peer-support opportunities.	2.4.2
13	The review team **commends** the choice of courses within programmes which is valued by UG students. Students emphasised the importance of maintaining optionality within programme curricula, especially in the earlier years, as this helps inform their specialisation choice and career pathways. They shared how the course summary presentations by course organisers are extremely helpful in helping inform their choices for optional courses.	2.4.3
15	The School is **commended** for establishing a team of EqIA champions to support policy owners in conducting EqIA reviews of new or current School policies.	2.5.2
14	The School is **commended** for recent advancements in supporting inclusive group work across its programmes, and for providing new guidance to course organisers in how they can most effectively facilitate and manage group work assessments.	2.5.3
16	The PGT student cohort advised they received clear information regarding assessment expectations, and they praised the quality of feedback and community building activities offered to them. The interaction from programme directors and their proactive response to feedback was highlighted as excellent and the review team **commends** the PGT experience being supported and delivered by the School.	2.6.4
18	The School is **commended** for including activities such as industry placements, industry-led projects, guest lectures and site visits into its core provision. It is clear the School recognises the importance of industry consultation in ensuring curriculum content meets current industry needs and assists in the development of skills and knowledge which will be directly applicable in an industry workplace.	2.7.1

19	The review team **commends** the work of Prof Tim Stratford in embedding real world open-ended problems into the curriculum of Civil Engineering programmes, and the School for moving forward with embedding this approach across its other disciplines.	2.7.1
20	The Careers in Engineering fair is noted as being highly successful, and the School is **commended** for running a complementary, annual Industry Networking Event which facilitates additional networking opportunities between students and potential future employers. In particular, the review team **commends** the Programme Director of the MSc Fire Engineering Science programme, as they heard how pleased the students were with the specialist careers fair organised for them.	2.7.2
21	Students shared how they highly value work placements in the development of core skills and employability and the School is **commended** for offering credit bearing placement opportunities in MEng programmes in Chemical Engineering, Mechanical Engineering and Electronic & Electrical Engineering.	2.7.4
22	The review team praises the School for acknowledging the varying levels of awareness among staff regarding GenAI capabilities and student use and **commends** the Deputy Director of Learning and Teaching (Interdisciplinary Courses) for offering training to bridge this knowledge gap, helping staff stay updated in a rapidly evolving technology landscape.	2.8.2
23	The School is **commended** for the excellent induction provision and additional specific training offered to PGR students who want to tutor and demonstrate. It was evident the Deputy Director of Learning and Teaching (Student Support) planned and delivered a comprehensive and interactive programme of induction training to the PGR students interested in pursuing teaching opportunities within the School.	2.8.4
24	The School and its technician staff are **commended** for the implementation and support of the Makerspace initiative as it is evident this has allowed the School to support a number of successful and stimulating extra-curricular student led groups.	2.9.2

Recommendations

Areas for development and enhancement – progress to be reported.

Priority	Category	Recommendation	Report Section	Responsibility of
1	Assessment and feedback	The review team **recommends** the School completes a mapping exercise across the core courses and core programme combinations to review workload and identify clusters of assessment submission times with a view to gaining a greater understanding of overall delivery of provision and its impact on students. It further **recommends** the School work proactively to identify and implement measures	2.3.4	Director of Learning and Teaching Directors of Discipline Discipline Programme Managers

		which reduce workload pressures created by the assessment requirements of individual courses (particularly in relation to assessment workload of 10 credit modules)		
2	Assessment and feedback	Students identified that those assessments with specific rubrics and guidance on marking criteria were easier to engage with, and led to more specific and beneficial feedback. The review team **recommends** the School provides specific and detailed rubrics and marking criteria across a greater range of course assessments. The review team **recommends** the School investigates how the use of verbal feedback or audio recordings as a quick and timely way of sharing feedback to students can be implemented across its courses and **recommends** consideration is given to how the methods of feedback could be diversified to allow more detail and specificity.	2.3.6 2.3.7	Director of Learning and Teaching Directors of Discipline Discipline Programme Managers
3	Student Support	The review team acknowledges the implementation and operationalising of the Cohort Lead role is not a School specific issue alone, but does still **recommend** the School reviews the disciplines' various approaches to the role, identify best practice and implement a strategic and consistent approach across all cohort years and disciplines. It is **recommended** the School implements a system to monitor the operation of the Cohort Lead role over time with a view of measuring its effectiveness and improve future support provision to students. It is **recommended** the School determines how Cohort Leads can better support students in making optional course choices and ensure sufficient guidance is available to facilitate their decisions. It is further **recommended** the School considers how Cohort Leads can assist with providing targeted support to students at key transition stages.	2.4.3 2.4.4 2.4.5	Director of Learning and Teaching Director of Students Directors of Discipline Discipline Programme Managers

4	Assessment and feedback	The review team **recommends** the School investigates new innovative ways in which to (a) collect feedback from students during classes and across the periods of course delivery and (b) asks course organisers to allocate time within class for completion of end of course feedback. It is also **recommended** the School find more effective ways to communicate how issues raised by students during course delivery have, or will be, addressed and how the current cohorts will positively benefit from such actions. The School should consider the timing and operation of SSLCs in promoting and evaluating the success of feedback mechanisms.	2.3.10	Director of Learning and Teaching Directors of Discipline Discipline Programme Managers
5	Curriculum reform	The review team acknowledges how the framework of the backbone courses offers the School a valuable opportunity to effectively integrate the core skills necessary for accreditation. This structure helps ensure students develop the required competencies successfully. The review team **recommends** integrating this skills development further with the optional courses for full integration, including adequate contextual content. It is **recommended** the School ensure course organisers for optional courses are fully informed about the skills being taught and assessed in the backbone courses, as this awareness will help facilitate further learning and avoiding duplication of content.	2.2.3	Director of Learning and Teaching Deputy Directors of Learning and Teaching (Curriculum Renewal)
6	Student Support	It is **recommended** cohort activities be built into the timetable, perhaps through the backbone courses, to both raise the importance of this support but also to enhance student engagement.	2.4.4	Director of Students Cohort Leads Head of Teaching and Student Services Student Support Manager

7	Staff support and development	The review team **recommends** the School implement a review process for monitoring the effectiveness of individual tutors and demonstrators to support the provision of feedback on their performance and skills.	2.8.5	Deputy Director of Learning and Teaching (Staff Development)
8	Assessment and feedback	Students from the UG cohort expressed a desire for the School to explore different assessment models to replace peer assessment, particularly where it could help address issues with perceived unfair contributions and underperformance during group work assessments. The review team **recommends** the School acts on this feedback to ensure fair and robust peer assessment and considers giving weighted credit to peer review activities to improve participation. The review team further **recommends** the School implements a variety of methods in choosing how students are grouped and assessed, and reviews the mechanisms for addressing underperformance or non-contribution to group assignment activities.	2.4.7 2.5.3	Director of Learning and Teaching Directors of Discipline Discipline Programme Managers
9	Curriculum reform	The review team acknowledges how the framework of the backbone courses offers the School a valuable opportunity to effectively integrate the core skills necessary for accreditation. This structure helps ensure students develop the required competencies successfully. The review team **recommends** integrating this skills development further with the optional courses for full integration, including adequate contextual content. It is **recommended** the School ensure course organisers for optional courses are fully informed about the skills being taught and assessed in the backbone courses, as this awareness will help facilitate further learning and avoiding duplication of content.	2.2.3	Director of Learning and Teaching Deputy Directors of Learning and Teaching (Curriculum Renewal)

10	Accessibility, inclusivity and widening participation	The School are aspiring to meet the 20% WP entry target set by the Scottish Government, but a coordinated approach in achieving this goal was not well articulated and it was unclear if this target was realistic or achievable. The review team **recommends** developing a coherent, School-specific widening participation (WP) strategy to help the School work towards its specific WP targets and support the University's WP Strategy 2030 ambitions.	2.5.4	Director of Student Recruitment Marketing, Recruitment and Communications Manager Widening Participation and Outreach Manager
11	Curriculum reform	The review team **recommends** the School map the level of industry involvement in courses to create a holistic view for each degree program, and that targets are established for the % of teaching staff who have industry experience and the % of courses which have industry involvement (either in development of material or in delivery). It also **recommends** the School seeks support and advice from the Industrial Liaison Boards to explore ways to increase UK industry placement opportunities for overseas students, particularly where placements are a core component of the programme.	2.2.4 2.7.5	Director of Learning and Teaching Deputy Directors of Learning and Teaching (Curriculum Renewal) Industry Engagement Manager Compliance Manager, Student Immigration Service
12	Curriculum reform	The review team **recommends** that before embarking further on a journey to implement co-creation within the School, some key questions must first be considered (the specific questions are noted in section 2.2.5).	2.2.5	Director of Learning and Teaching Deputy Directors of Learning and Teaching (Curriculum Renewal)

Suggestions

For noting – progress reporting is not required.

No	Suggestion	Section in report
1	It is **suggested** the School give thought as to how they be able to recruit and support students who may not be academically very high-achieving, but who are still very technically capable and for whom engineering could be a viable and successful career option.	1.5

2	The review team heard of the effective use of assessment rubrics in the Wind Energy course and **suggests** the School develops an assessment community of practice to help share knowledge, experience and best practice across the disciplines.	2.3.5
3	The School shared how involving industry in course co-creation can be challenging, varies across disciplines and isn't consistently tracked or monitored. It is **suggested** the School works to review and identify areas of the curriculum where greater involvement of industry would facilitate further innovation and collaborative working.	2.7.1
4	The review team **suggests** the School models the approach of Mechanical Engineering and encourages the other disciplines to embed their career planning activities directly into relevant academic courses. This would help enable a more consistent approach and greater equity in the student experience.	2.7.3
5	It is **suggested** the School encourage their professional services staff to complete the new professional development course "Generative AI for Higher Education Professional Services" which can be accessed via People and Money.	2.8.2
6	The review team **suggests** the School provide greater visibility and encouragement for PGR tutors and demonstrators to engage with accreditation opportunities for teaching and transferable skills, particularly when the School of Engineering EdTA programme is fully implemented.	2.8.4
7	The review team **suggests** the School includes training on the use of digital learning equipment within their current tutor and demonstrator induction and training activities.	2.8.5
8	On discussion with Professional Services staff representatives, the review team heard how high staff turnover in the Teaching Office can impact on workload due to the need for staff to be continually engaged in training activity. The review team **suggests** mechanisms are put in place to help mitigate this issue, which might include the development (or updating) of comprehensive, written training manuals and procedure guides, and peer to peer mentorship.	2.8.6
9	The review team **suggests** the School identifies ways in which to deliver GenAI training to students within the core curriculum. It is further **suggested** the School consider how its selection of assessment methods need to evolve to accommodate the challenges posed by GenAI.	2.2.8
10	Ahead of its opening in 2026, it is **suggested** the School Senior Management team develop a strategic plan for the use of the new building, which should include considering how new capacity made available in the current estate could be better used to serve the needs of the students.	2.9.1
11	It is **suggested** the School provides their feedback to Student Systems to help them identify ways in which the EERS can be improved and aid the provision of feedback from externals as part of quality assurance processes.	3.1.3

Section A – Introduction

Scope of review

Range of provision considered by the review (see Appendix 1).

The Internal Periodic Review of the School of Engineering in 2024/25 consisted of:

- The University's remit for internal review (see Appendix 2).
- The subject specific remit items for the review**:**
    - Curriculum Reform
    - Assessment and feedback
- The Reflective Report and additional material provided in advance of the review
- The meeting of the review team including consideration of further material (see Appendix 3).
- The final report produced by the review team.
- Action by the School and others to whom **recommendations** were remitted following the review.

Review Team Members

Convener	Dr Chris Mowat (School of Chemistry)
External Member	Professor Emanuela Tilley (University College London)
External Member	Dr Andrew McLaren (University of Strathclyde)
External Member	Ross Kennedy (Syngenta)
Internal Member	Dr Belen Martin-Barragan (Business School)
Student Member	Eliza Tompson
Review Administrator	Dr Lindsey Fox (Student Administration, College Office)

The School

The School of Engineering is based in the College of Science and Engineering and delivers a number of accredited (and unaccredited) undergraduate and postgraduate programmes.

School research disciplines include Chemical Engineering, Civil and Environmental Engineering, Electronics and Electrical Engineering, and Mechanical Engineering. Each Discipline is led by a Director of Discipline (DoD) who is supported by a Deputy and a Degree Programme Manager (DPM). Within the four disciplines, there are seven research institutes. Each member of academic staff teaches in one of the four engineering disciplines and is a member of a Research Institute.

Physical location and summary of facilities

The School of Engineering is part of the College of Science and Engineering at The University of Edinburgh and is located on the King's Buildings campus. The School is predominantly located in the Sanderson Building and Alnwick buildings, with a new state of the art building expected to open in 2026.

Date of previous review

20 & 21 February 2019

Reflective Report

Prof Dave Laurenson (Director of Learning and Teaching) and Laura Smith (Head of Teaching and Student Services) led the preparations for the review, including the preparation of the reflective report. Many other role holders across the School also contributed to the report:

Dr Stewart Smith – Director of Students
Dr Gail Duursma – Director of Quality
Dr John Christy – Deputy DoLT (Academic Standards) / Assistant DoLT (Curriculum Renewal)
Dr Ricky Carvel – Assistant DoLT (Curriculum Renewal)
Prof James Hopgood – Director of Discipline (Electronics and Electrical Eng)
Dr Philip Hands – Director of Student Recruitment
Prof Aristides Kiprakis – Director of International Students
Dr Ignacio Tudela-Montes – Deputy DoLT (Staff Development)
Dr Francisco Garcia Garcia – Discipline Programme Manager (Chemical Eng)
Dr Chris Beckett – Discipline Programme Manager (Civil and Environmental Eng)
Dr Elliot Crowley – Discipline Programme Manager (Electronics and Electrical Eng)
Dr Amer Syed – Discipline Programme Manager (Mechanical Eng)
Prof Tim Drysdale – Technology Enhanced Science Education Chair
Prof David Ingram – Director of Diversity and Inclusion
Victoria Farrar – Student Support Manager
Shona Barnet – Student Experience Officer
Shona Nixon – Student Wellbeing Adviser
Dr Katherine Cameron – Industry Engagement Manager
Matt Vickers – Careers Consultant
Jemma Caldwell – HR Administration Manager
Simonne Chung – Organisational Development Officer
Lyndsey Johnstone - Organisational Development Officer
Sharon Mulvey – HR Administration Officer
Francesca Coates – International Recruitment and Partnerships Manager
Katie Grant – Widening Participation and Outreach Officer
Ben Gordon – Buildings Manager
Dr Sally Morgan – Technical Services Manager
Elena Ioannidou – Learning Technology Support Officer

The School conducted a process to identify the subject specific remit items involving both staff and students. This included receiving written feedback from individual students as well as receiving verbal feedback via student representatives. Finalised remit items were agreed and approved by the student representatives. Whilst invited to do so, students did not contribute to the drafting of the reflective report.

Section B – Main report

1 Strategic overview

1.1 The University was ranked 27th in the QS World University Rankings and 29th in the Times Higher Education Rankings. The School is divided into four teaching disciplines, each managed by a Director of Discipline who receives support from a deputy and a discipline specific programme manager. All BEng and MEng programmes are accredited, with three out of four offering industry placements as part of their curriculum.

1.2 The student body currently comprises 2,865 students (1,988 undergraduate, 207 postgraduate taught, and 607 postgraduate research). At UG level, approximately 60% are home students (41% Scottish and 20% rest of UK) with the remaining 40% being international. In contrast, the current PGT student cohort is almost entirely (92%) international. The students are supported in their learning by 165 members of academic staff and 153 professional services staff.

1.3 There has been significant and year on year growth in UG student numbers, but this has not been consistent across the disciplines. For example, student numbers in Mechanical Engineering have seen significant growth, but Civil Engineering student entrants remain below capacity. The School reported UG student numbers were now at capacity, based on estates restraints and capacity to supervise dissertation projects (particularly in Electrical Engineering and Mechanical Engineering disciplines).

1.4 In contrast, PGT student intake has suffered from serious decline in recent years due to changes in UK immigration policy and high tuition fee rates for international students. The School recognises the challenges ahead in improving PGT applications and offer conversion, and the financial risks associated with this. The School is debating several strategies to try help address these issues.

1.5 The School has the flexibility to set their own quotas across the different disciplines (both at UG and PGT level) and proactively considers the student experience when doing so. The School has taken a variety of approaches to managing student numbers across disciplines, including amending (both up and down) individual programme entry requirements and making aspirational offers. The School is considering the use of pre-entry tests for oversubscribed disciplines, although there are some reservations about this approach as it may create a barrier for some students. It is **suggested** the School give thought as to how they can recruit and support students who may not be academically very high-achieving, but who are still very technically capable and for whom engineering could be a viable and successful career option.

1.6 There are ongoing discussions within the School around curriculum reform and the curriculum transformation project. In general, staff are supportive about the opportunity to review courses and programmes in light of resolving recognised challenges such as assessment workload and volume of courses, as discussed within the reflective report and during the review meetings.

2 Enhancing the student experience

2.1 The approach to enhancing Learning and Teaching

2.1.1 The review team is satisfied with the School's approach to Quality Assurance and Enhancement. The School's committees and exam board structure is considered appropriate for maintaining academic standards, including standards required for programme accreditation.

2.1.2 The School operates a Learning and Teaching Committee which is chaired by the Director of Learning and Teaching, and whose membership includes many supporting directors and programme managers from across the individual disciplines (as detailed in the School's Committee Structure document). The School also runs an effective Board of Studies (BoS) which meets at least once a semester. The BoS oversees the development, review and approval of provision, changes to provision, development of new courses and programmes and closure of courses and programmes. The review team considers the School's process of reviewing their portfolio to be thorough and managed with effective oversight from each of the discipline's leadership team. The School BoS further reports into the College Curriculum Approval Board (CCAB).

2.1.3 Creation of courses is managed at a discipline level by the Discipline Programme Manager, with cross school courses being the responsibility of the Deputy Director of Learning and Teaching (Interdisciplinary Courses). Disciplines consider the necessity, or otherwise, of a course from an accreditation perspective, the resource implications of a proposed course (staff, space and finance), the anticipated student interest in the course, and the impact on other courses, such as reduction in student numbers, or timetable challenges.

2.2 Curriculum design and development

2.2.1 The School has been undertaking an extensive review of its curriculum (which started in 2019) with a particular focus on graduate outcomes, attributes and skills. This aligns with changes in the accreditation requirements of the Engineering Council's Accreditation of Higher Education Programme standards (AHEP-4) and the University's curriculum transformation expectations. The School introduced a common framework for year one in 2020/21 which focused on the Principles of Engineering and Design, and includes Grand Challenges. The School's subsequent reflection on the introduction of the common first year curriculum and its limitations which led to the reintroduction of more discipline-specific content in semester two of first year is **commended**. Feedback from students who experienced the altered year one curriculum suggests, however, they are still seeking a year one learning experience which gives them a stronger sense of what engineering means and a closer link to their chosen discipline.

2.2.2 The School's reflective report detailed how one of the ways in which the curriculum has been revised is via the creation of 'backbone' courses. The review team heard how these backbone courses seek to teach and develop graduate attributes and skills in a systematic and progressive manner, and run through each of the core engineering programmes. The Directors of Disciplines shared how the development and design of the backbone courses had been informed and supported by careful reflection on the content of optional courses and a mapping exercise across each discipline had been conducted to ensure teaching and assessment of skills was not unnecessarily duplicated. The review team **commends** the systematic approach the School is taking to developing core skills and graduate attributes across their programmes, and for implementing iterative improvements in response to student feedback.

2.2.3 The review team acknowledges that the framework of the backbone courses offers the School a valuable opportunity to effectively integrate the core skills necessary for accreditation. This structure helps ensure students develop the required competencies successfully. The review team **recommends** integrating this skills development further with the optional courses for full integration, including adequate contextual content. The review team **recommends** the School ensure course organisers for optional courses are fully informed about the skills being taught and assessed in the backbone courses, as this awareness will help facilitate further learning and avoid duplication of content.

2.2.4 The review team enquired about the level of industry involvement in the development and delivery of learning, highlighting the importance of a strong industrial connection for ensuring curricula remain relevant to support employability of graduates as well as providing students with real-world examples to contextualise theoretical learning. Examples were provided including the use of Industrial Liaison Boards (ILBs), guest lecturing, industrial placements, research collaborations, and through student-led events. The review team **recommends** that the School map the level of industry involvement in courses to create a holistic view for each degree program, and that targets are established for the % of teaching staff who have industry experience and the % of courses which have industry involvement (either in development of material or in delivery).

2.2.5 Staff mentioned a **commendable** example of co-creation from Mechanical Engineering in pre-honours, which is positively included in the curriculum and which is an example of what is possible in terms of co-creation of both content and assessment to help with further discussion. More widely, however, the review team recognises co-creation as being difficult within the context of accredited engineering degrees and therefore co-created curriculums are not widely implemented across the sector currently. The review team **recommends** that before embarking further on a journey to implement co-creation within the School, some key questions must first be considered. These question include:

a) What does co-creation mean to the School (e.g. does it apply to both content and assessment and feedback?)
b) Why does the School want to implement co-creation (e.g. is there evidence that it is beneficial to the learning process?)
c) What benefits does the School believe co-creation will deliver? (e.g. have any benefits been measured from the current application of co-creation within the School).

2.2.6 The School and the review team acknowledges GenAI is advancing at such a pace that learning needs to adapt quickly to respond to new capabilities. The expectations of employers as students enter the workforce are equally changing rapidly as the technology unlocks new potential for automation and productivity. Students shared mixed feelings about the use of GenAI in general, with examples including positive use of ChatGPT to explain concepts from lectures that were not well understood, and negative use of LLM to generate paragraphs of text for written group submissions which resulted in the final group report consisting of incoherent writing styles. The School is **commended** for creating space for academics to experiment with GenAI tools to improve the learning process, such as Tim Drysdale's work (among others mentioned in the reflective report).

2.2.8 UG students shared how they felt they have not received direct or dedicated guidance or training on the use of GenAI during their studies. GenAI presents the School with opportunities to engage in constructive conversations with students about how they

are using GenAI, and the importance of critical thinking, reviewing sources and the ethical use of technology. Therefore, the review team **suggests** the School identifies ways in which to deliver GenAI training to students within the core curriculum. It is further **suggested** the School consider how its selection of assessment methods need to evolve to accommodate the challenges posed by GenAI. For example, the students recognised the value of using interviews or discussion groups to verbally test their understanding of a topic following a written group submission.

2.2.9 Recognising the University's role in establishing policy and guidance for GenAI use, and the potential rise in academic misconduct due to its misuse in assessments, the review team **suggests** the School proactively shares feedback with relevant stakeholders to inform the future development of the University's GenAI policy and guidance.

2.3 Assessment and feedback

2.3.1 In relation to workload, the School acknowledges there are issues associated with high student workload (particularly in the area of assessment), and this was an accurate representation of the student voice commenting on their own perceived workload. The review team **commends** the practice of seeking student feedback on their perceived workload because it gives students the opportunity to be heard and there is acknowledgement from the UG community that they believe that there has been some improvement with this issue.

2.3.2 Students participating in the review spoke positively about opportunities to undertake continuous in-course assessment, as it raised levels of engagement with course content. However, the effort and time required to complete in-course assessment was perceived to be (in some cases) unreasonable and disproportionate to the % contribution towards final grades. Students advised they would consciously prioritise in-course assessments where the learning and feedback was essential for future learning or progression with the course. Generally, the review team heard that whilst students welcomed both in-course and final assessments, there is still a significant issue with the volume of assessment, both within and across courses.

2.3.3 Students from the UG cohort expressed frustration about the mechanisms for addressing underperformance in group assignments, which they viewed as ineffective. Several pieces of anecdotal evidence suggested there had been cases where groups had marked-down the non-contributing members of groups, but that this had had no meaningful impact on the grade of the individual in question, and therefore provided no incentive for change. The review team **recommends** the School implements a variety of methods in choosing how students are grouped and reviews the mechanisms for addressing underperformance or non-contribution to group assignment activities.

2.3.4 In discussions with the Directors of Disciplines and Discipline Programme Managers, the review team identified a lack of commentary from the School based on their own collected data on the actual and/or intended workloads associated with the learning on the courses in their degree programmes. It was also apparent it was not clear if the assessment workload information is collated and known for entire degree programmes. The review team **recommends**, as a priority matter, the School completes a mapping exercise across the core courses and core programme combinations to review workload and identify clusters of submission times with a view to gaining a greater understanding of overall delivery of provision and its impact on students. It further **recommends** the School work proactively to identify and implement measures which reduce pressures created by the assessment requirements of

individual courses. This should include providing an assessment calendar/schedule for all year groups on each degree programme with clear coordination of assessment load and clear communication to students of expectations (e.g. expected time to be spent on each assessment). This exercise should include identifying opportunities to embed formative assessment and feedback in place of some assessed in-course submissions, as well as a review of the assessment requirements of 10 credit courses, which were perceived by students to have disproportionately high assessment demands compared to 20 credit courses.

2.3.5 Where assessment and marking rubrics are used, the students receive them well and they appreciate the language used to describe thresholds of performance (fail, poor, satisfactory, good, very good etc.) for each of the criteria in the marking scheme. Providing students with detailed criteria and specific points of mark allocation is not only appreciated by students but allows for a greater understanding of the feedback and the opportunity to make specific improvements. The review team heard of the effective use of assessment rubrics in the Wind Energy course (which it **commends**) and **suggests** the School develops an assessment community of practice to help share knowledge, experience and best practice across the disciplines.

2.3.6 Students identified assessments with specific rubrics and guidance on marking criteria were easier to engage with, and led to more specific and beneficial feedback. The review team **commends** the School for working with education developers to help create rubrics and marking criteria that are clear to the students in terms of what it takes to achieve. The review team **recommends** the School adopt rubrics and marking criteria which can be used across a greater range of courses.

2.3.7 It is evident the School is engaged with improving the quality of assessment feedback provided to students. The review team **commends** the course organisers who are employing the use of verbal feedback or audio recordings as a quick and timely way of sharing feedback to students, as PGT students commented on the positive experiences they have with this method of feedback. The review team **recommends** the School investigates how this example of best practice could be more widely implemented across its courses and **recommends** consideration is given to how the methods of feedback could be diversified to allow more detail and specificity.

2.3.8 The School is **commended** for recent improvements in assessment feedback timescales. The School advised 89% of the current year assessments had been marked and feedback provided to students within the University's expected 3 week turnaround time. The students recognised the effort required to meet this target and articulated their appreciation of this.

2.3.9 The review team **commends** the School's good practice in moderation activities, such as randomly sampled cross-marking where there are multiple markers performing an assessment of a cohort for the same task. However, students raised concerns about apparent marking discrepancies based on different markers, such as PGR tutors/demonstrators, academic staff or external markers. The review team **suggests** greater transparency and communication of the marking approach to students may increase the positivity of response to marking. Where multiple markers assess the same piece of assessment, it is **suggested** students be given the opportunity to request re-assessment of feedback or marks as an additional check to ensure consistency of the process.

2.3.10 The low completion rates of mid and end of course feedback surveys was discussed with students and staff. It was evident this impacted on the School's ability to undertake any form of systematic data analysis to identify both underperforming

courses and internal best practices. Students recognised the value of these surveys but acknowledged their lack of engagement with them, as well as other opportunities to feed back to the School. Students felt that any feedback shared and acted on didn't result in improvements and benefits for themselves, but rather for future cohorts and classes. The review team, therefore, **recommends** the School investigates new innovative ways in which to (a) collect feedback from students during classes and across the periods of course delivery and (b) asks course organisers to allocate time within class for completion of end of course feedback. A suggestion from best practice at UCL includes investigating how Mentimeter could be used to encourage greater student participation in online teaching and assessment. An additional **recommendation** for the School is to find more effective ways to communicate how issues raised by students during course delivery have, or will be, addressed and how the current cohorts will positively benefit from such actions. The School should consider the timing and operation of SSLCs in promoting and evaluating the success of feedback mechanisms.

2.4 Supporting students in their learning

2.4.1 The School's implementation of the new student support model, which replaces the personal tutor model, has been highly successful. The review team **commends** the professional services team within the Teaching and Student Support Offices for their commitment to, and support for, UG and PGT students. The review team **commends** the Student Support Manager and her team of Student Advisors who are clearly working hard to give high quality pastoral support and information to students. In this regard, the review team found the School to be effectively engaging with and supporting the operational delivery of the University's Student Mental Health Strategy.

2.4.2 The review team **commends** cohort leader practices in the provision of support to PGT students, where the success of the new student support model is clearly echoed through the student voice. On the other hand, the role of the UG cohort leader is less well-defined and understood, with inconsistency in the different disciplines' approaches to the UG cohort lead role. The review team also heard how members of the School's student support team have needed to step in and deliver activities expected to fall under the responsibility of Cohort Leads. The School acknowledges how the Cohort Lead role has been challenging to implement, noting there has been significant uncertainty among both staff and students about the role. The review team acknowledges the difficulties with the cohort lead role are not a School specific issue alone, but does still **recommend** the School reviews the disciplines' various approaches to the cohort lead role, identify best practice and implement a strategic and consistent approach across all cohort years and disciplines. For example, a **commendable** example of Cohort Lead best practice was given by the cohort leader of Chemical Engineering, who leads a series of events used for community learning, academic engagement and creating peer-support opportunities.

2.4.3 The review team **commends** the choice of courses within programmes which is valued by UG students. Students the review team met with emphasised the importance of maintaining optionality within programme curriculums, especially in the earlier years, as this helps inform their specialisation choice and career pathways. They shared how the course summary presentations by course organisers are extremely helpful in helping inform their choices for optional courses. That said, UG students also shared how they felt overwhelmed by the process of selecting optional course choices, particularly in 4th and 5th year, as they did not fully understand the implications of their decisions. They believed (incorrectly) that their course choices could narrow their

future employability and when considering the provision of support given via their Cohort Leads, they felt better academic guidance had been available to them via the one to one support previously provided by Personal Tutors. The review team learned that while course choice events should be followed by one-on-one meetings with students, organising these meetings is challenging, and participation is often low because they are optional. It is **recommended** the School determines how Cohort Leads can support students in better understanding the implications of optional course choices within their degree program and that sufficient guidance is available to facilitate their decisions.

2.4.4 The review team recognises that attracting student participation in cohort led activities has been difficult, and so **recommends** these activities be built into the timetable, perhaps through the backbone courses, to both raise the importance of this support but also to enhance student engagement. It also **recommends** the School implement a system of monitoring the operation of the Cohort Lead role over time to measure its effectiveness and improve future support provision to students.

2.4.5 The review team were advised there are a number of routes to starting studies in the School; this included standard entry into year one, direct entry to year two and 2+2 overseas students commencing in year three. Pre-arrival support for students included access to pre-sessional teaching such as pre-session mathematics courses for WP students and English language courses for overseas students, and discipline specific pre-arrival materials for 2+2 students. In consideration of the review team's **recommendation** to review the role of the Cohort Leads in more effectively supporting students, it is **recommended** the School considers how Cohort Leads can assist with providing targeted transitions support to these groups of students.

2.4.6 The review team enquired about the demographic of the students who had to transfer onto the unaccredited degree programs. There was some anecdotal evidence heard which suggested that this cohort were typically Scottish students, but independent of socio-economic background (e.g., no evidence to suggest WP students were disproportionately affected). It was highlighted that changes had been made over the last decade particularly to support Scottish students with the transitional challenges posed by the level of mathematics required. The review team **suggests** the School undertake systematic data analysis to identify if there are common themes in the type of students failing to progress on accredited programs (e.g., by demographic, by entry-point, by discipline etc.). Whilst the numbers of students transferring onto unaccredited programmes is noted to be quite low, it is **suggested** the School develops an action plan to help minimise the number.

2.4.7 The review team heard from UG students about opportunities to engage in peer assessment. While some courses did include this type of assessment, and students recognised its value, the general consensus was it was unhelpful and lacked value. They expressed a desire for the School to explore different assessment models to replace peer assessment, particularly where it could help address issues with perceived unfair contributions during group work assessments. In support of this, the review team **recommends** the School acts on this feedback to ensure robust and fair peer assessment and considers giving weighted credit to peer review activities to improve participation.

2.5 Accessibility, inclusivity and widening participation

2.5.1 The review team heard from the School's Teaching and Student Support Managers how the School engages successfully with the Disability and Learning Support Service in order to facilitate the effective implementation of student's learning adjustments. The review team was impressed by the service the School receives from the University's central examination service in supporting the implementation of adjustments during exam periods.

2.5.2 The School's engagement with the University's Equality and Diversity Strategy is overseen by the Director of Diversity and Inclusion who is a member of the School's management team. The School recently merged two committees to form one Development and Inclusion committee, which brings together key staff from across all representative groups (technicians, researchers, teaching organisation, academic staff, and professional services). The School is **commended** for establishing a team of EqIA champions to support policy owners in conducting EqIA reviews of new or current School policies.

2.5.3 Implementation of the University's Equality and Diversity Strategy is further complemented by the Engineering Council's "Accreditation of Higher Education Programmes" (AHEP4), which requires staff and students to "*adopt an inclusive approach to engineering practice and recognise the responsibilities, benefits and importance of supporting equality, diversity and inclusion."* The School is **commended** for recent advancements in supporting inclusive group work across its programmes, and for providing new guidance to course organisers in how they can most effectively facilitate and manage group work assessments.

2.5.4 The School's newly appointed Director of Student Recruitment works in close partnership with the College admissions team and the School's Student Recruitment team to oversee the Schools approach to Widening Participation activities. The review team learned about a variety of WP activities the School is involved with locally through the LEAPS programme. They also heard about initiatives supported by the School, such as the Primary Engineer project, the ProAttain initiative and the Sutton Trust Summer School. The review team recognised the efforts for working with the community to attract WP students and providing support to them during the key transition periods. The School are aspiring to meet the 20% WP entry target set by the Scottish Government, but a coordinated approach in achieving this goal was not well articulated and it was unclear if this target was realistic or achievable. The review team **recommends** developing a coherent, School-specific widening participation (WP) strategy to help the School work towards its specific WP targets and support the University's WP Strategy 2030 ambitions.

2.6 Listening and responding to the student voice

2.6.1 Students confirmed to the review team the opportunities they have to provide feedback, as noted in the reflective report. These included opportunities to provide course specific feedback via course questionnaires, engagement with student representatives and participation at student-staff liaison committee, as well as regular meetings with key teaching staff.

2.6.2 The review team learned that the Student Staff Liaison Committees (SSLCs) are viewed positively by both students and staff, with staff-student interactions being both productive and appreciated by students. The students are aware of their programme representatives and how to communicate feedback to them, however, there is a sense that the group's voice can sometimes be diluted by the student reps. Improvements

in recent years to enhance the quality of conversation by advising student representatives on what topics were appropriate to raise in SSLC have been well received. UG students shared how improvements in the timing of SSLC meetings would be beneficial, that SSLCs were not particularly effective in helping address programme specific issues and how they would like the School to increase the speed at which the feedback loop is closed.

2.6.3 The School highlighted how engagement with Piazza Discussion Boards is low but UG students shared how useful they found them in facilitating course questions and provision of feedback, particularly because they did not actively engage with the feedback functions offered via LEARN. The students liked how Piazza allowed them to post feedback and comments anonymously but they recognised it was most effective when the whole class actively engaged. In light that students positively commented on the use if Piazza Discussion Boards, the review team **suggests** the School perseveres and seeks to understand the barriers to greater engagement.

2.6.4 The PGT student cohort advised they received clear information regarding assessment expectations, and they praised the quality of feedback and community building activities offered to them. The interaction from programme directors and their proactive response to feedback was highlighted as excellent and the review team **commends** the PGT experience being supported and delivered by the School.

2.6.5 The Schools reflective report documents how it uses information gathered via student surveys such as National Student Surveys (NSS) and Postgraduate Taught Experience Survey (PTES) to identify key areas for improvement and the best ways to communicate the student's feedback to staff. The School feels this approach has been good at changing practice, but it has not resulted in improved survey scores.

2.7 Development of employability and graduate attributes

2.7.1 In Section 2.2, it is described how the School has been actively reforming its curriculum and the School was commended for including activities such as industry placements, industry-led projects, guest lectures and site visits into its core provision. The School clearly recognises the importance of industry consultation in ensuring curriculum content meets current industry needs and assists in the development of skills and knowledge which will be directly applicable in an industry workplace. The review team **commends** the work of Prof Tim Stratford in embedding real world open-ended problems into the curriculum of Civil Engineering programmes, and the School for moving forward with embedding this approach across its other disciplines. The review team agree with the School in how involving industry in course co-creation can be challenging, varies across disciplines and is not consistently tracked or monitored. It is **suggested** the School works to review and identify areas of the curricula where greater involvement of industry would facilitate further innovation and collaborative working.

2.7.2 The School supports students in their future careers by providing opportunities through the Careers Service, such as opportunities to aid career development and help students explore options in both industrial and academic fields, benefiting UG and PGT students. The School's assigned careers consultant contributes to induction activities and delivers a range of generic lectures and seminars to students studying across years 1 to 4. The Careers in Engineering fair is noted as being highly successful, and the School is **commended** for running a complementary, annual Industry Networking Event which facilitates additional networking opportunities between students and

potential future employers. In particular, the review team **commends** the Director of the MSc Fire Engineering Science programme, as they heard how pleased the students were with the specialist careers fair organised for them. The review team also heard how students appreciate the efforts of lecturers to link their learning to real-life situations and industry relevant projects, such as the work being undertaken in partnership with Drax Power Station. The students understand how this approach helps them develop valuable skills for both industry and academic careers and how the hands-on approach enhances their understanding but also prepares them for future challenges by fostering critical thinking and problem-solving abilities.

2.7.3 The School recognises student engagement with career development activities across Mechanical Engineering is higher than the other three disciplines because they embed career development sessions into the core curriculum. In contrast, the other three disciplines offer optional engagement activities distinctly outside the core curriculum and this was identified as the main reason student participation tends to be low. The UG student cohort felt the provision provided in this way was not individualised enough and the theory was not as valuable as real-life experience. The review team **suggests** the School models the approach of Mechanical Engineering and encourages the other disciplines to embed their career planning activities directly into relevant academic courses. This would help enable a more consistent approach and greater equity in the student experience.

2.7.4 Students shared how they highly value work placements in the development of core skills and employability and the School is **commended** for offering credit bearing placement opportunities in MEng programmes in Chemical Engineering, Mechanical Engineering and Electronic and Electrical Engineering. The review team is pleased the School recognises the potential benefit of offering an in-house industrial engagement activity for BEng programmes, for students who do not secure or choose not to do placements. The review team **suggests** the School continues with their plans to incorporate this opportunity into programmes where relevant.

2.7.5 A member of the PGT cohort shared how the inclusion of an industrial placement in the two-year MSc Advanced Power Engineering programme was the reason they chose to study at Edinburgh, but on further discussion it was revealed the placement opportunity was competitive and not guaranteed. The School shared how it is challenging to find industry partners who will offer placements to overseas students, and this was a particular issue for Electronic and Electrical Engineering. The review team **recommends** the School seeks support and advice from the Industrial Liaison Boards to explore ways to increase UK industry placement opportunities for overseas students, particularly where placements are a core component of the program.

2.8 Supporting and developing staff

2.8.1 An assessment and review of all staff (academic, technical and professional) training and development needs is undertaken via yearly, mandatory Annual Reviews conducted by Line Managers. This is complemented by the work of the School's Staff Development Committee.

2.8.2 The School highlighted a range of CPD activities offered to academic staff over the past 5 years under the direction of the Deputy Director of Learning and Teaching (Staff Development). This includes opportunities such as the interactive Curriculum Renewal in Engineering Workshops (CREW), ABC workshops supporting the transition to online and hybrid teaching, feedback and assessment workshops and awareness training in GenAI. In particular, the review team praises the School for acknowledging the varying

levels of awareness among staff regarding GenAI capabilities and student use and **commends** the Deputy Director of Learning and Teaching (Interdisciplinary Courses) for offering training to bridge this knowledge gap, helping staff stay updated in a rapidly evolving technology landscape. It is **suggested** the School encourage professional services staff to complete the new professional development course "*Generative AI for Higher Education Professional Services*" which is accessible via People and Money.

2.8.3 The School offers academic teaching staff the opportunity to undertake the Edinburgh Teaching Award (EdTA) and the PgCAP. The School has recently developed a localised "School of Engineering EdTA" which is currently in its pilot phase. If successful, the plan is for the School to roll the programme out more widely, and it will cover the first three categories of membership to AdvanceHE (i.e., Associate Fellowship, Fellowship and Senior Fellowship).

2.8.4 The School policy on recruitment, support and development of PGR tutors and demonstrators aligns with the University's policy and expectations. The School is **commended** for the excellent induction provision and additional specific training offered to PGR students who want to tutor and demonstrate. It was evident the Deputy Director of Learning and Teaching (Student Support) planned and delivered a comprehensive and interactive programme of induction training to the PGR students interested in pursuing teaching opportunities within the School. This included opportunities to trial run experiments and use equipment in advance of teaching sessions as a way to support and validate the skills and competencies of tutors and demonstrators, although feedback from students suggested support from Course Organisers was variable. The review team further heard how the School's tutor and demonstrator induction training is supported by additional resources offered via the Institute for Academic Development (IAD), including access to the accredited (Category 1) Edinburgh Teaching Award (EdTA) and EUSA Edinburgh Award, but engagement with this additional support is low. The review team **suggests** the School provide greater visibility and encouragement for PGR tutors and demonstrators to engage with accreditation opportunities for teaching and transferable skills, particularly when the School of Engineering EdTA programme is fully implemented.

2.8.5 PGR tutors and demonstrators highlighted a desire to have access to periodic refresher training to help with maintaining their individual competence, as well as receiving more formative feedback from students and course organisers to help identify opportunities to improve. The review team **recommends** the School implement a review process for monitoring the effectiveness of individual tutors and demonstrators to support the provision of feedback on their performance and skills. They also requested additional support and training to support the use of digital learning equipment (e.g., recording equipment, display screens, microphones) and would welcome greater clarity on expectations to record teaching sessions for hybrid-learning students. The review team **suggests** the School considers including this training provision within their current induction and training activities.

2.8.6 On discussion with Professional Services staff representatives, the review team heard how high staff turnover in the Teaching Office can impact on workload due to the need to be continually engaged in training activity. The review team **suggests** mechanisms are put in place to help mitigate this issue, which might include the development (or updating) of comprehensive, written training manuals and procedure guides, and peer to peer mentorship. Teaching Organisation staff also noted the amount of unpaid overtime required during peak periods of the academic cycle can be excessive and they expressed how meeting their core responsibilities would be challenging without this extra, in-kind commitment. A factor in this issue is the necessity to devise workarounds for system limitations, such as managing exam resits. The review team

advocates the importance of the School highlighting to the Central University, the need to upgrade and improve the functionality of essential student management systems.

2.9 Learning environment (physical and virtual)

2.9.1 The School is currently hosted in many buildings across the Kings Buildings campus and the School recognises the challenge this presents with respect to co-location of teaching, study and social space. The review team heard from the Senior Management team how the new engineering building on the Kings Buildings campus is expected to increase space provision by approximately 30% and help alleviate some of these constraints. Ahead of its opening in 2026, it is **suggested** the School's Senior Management team make a strategic plan for the use of the new building, which should include considering how new capacity made available in the current estate could be better used to serve the needs of the students.

2.9.2 The School and its technician staff are **commended** for the implementation of the Makerspace initiative, which has been facilitated by the redesignation of under-utilised space in the Hudson Beare building and further supported via access to specialist teaching laboratories in the Sanderson and Fleeming Jenkin buildings. Through this initiative, it is evident the School is supporting several stimulating extra-curricular student groups including Hyped, Formula Student, and Endeavour which are all highly successful student led groups.

3. Assurance and enhancement of provision

3.1 Setting and maintaining academic standards

3.1.1 The School has appropriate approaches to setting, maintaining and reviewing academic standards across UG and PGT programmes. Standards are reviewed via annual quality assurance monitoring and the practices of the Board of Studies, Exam Boards and Exceptional Circumstances, which conform to University policy and regulations. The School's Board of Studies provides the approval process for new courses and course changes and ensures all courses adhere to the SCQF's learning outcomes and go through a rigorous quality assurance process.

3.1.2 The review team heard from the Teaching Organisation and Student Support Office how the implementation of the new Exceptional Circumstances Policy and the centralisation of the Exceptional Circumstances Service is effectively supporting students who needed to make online concessions requests. The updated Exceptional Circumstances policy which now limits students to three extension requests per academic session was noted as a positive improvement. The School has an effective Exceptional Circumstances Committee in place who assist the School's Board of Examiners in making outcome decisions which are in the best academic interests of the student.

3.1.3 The review team enquired about the usefulness and effectiveness of the External Examiner Review System (EERS) as it was unclear if the current process allowed external examiners to adequately share feedback, good practice and areas for improvement. The School reported how external examiners tended to share such information after their formal duties had concluded and that the system could be more intuitive and user friendly. It is **suggested** the School provides their feedback to Student Systems to help them identify ways in which the EERS can be improved and aid the provision of feedback from externals as part of quality assurance processes.

3.1.4 A large number of the School's UG and PGT programmes are formally accredited via the relevant bodies (as listed below) and the mapping of learning outcomes to the Accreditation of Higher Education Programmes (AHEP4).

- The Energy Institute for the MSc Sustainable Systems programme;
- The Institution of Chemical Engineers (IChemE) for BEng/MEng Chemical Engineering programmes and the MSc Advanced Chemical Engineering programme;
- The Institution of Engineering and Technology (IET) for the BEng/MEng Electrical and Mechanical Engineering, BEng/MEng Electronics and Electrical Engineering, BEng/MEng Electronics and Computer Science programmes programmes and the MSc Advanced Power and MSc Electrical Power programmes;
- The Institution of Mechanical Engineering (IMechE) for BEng/MEng Mechanical Engineering and the BEng/MEng Electrical and Mechanical Engineering programmes; and
- The Institution of Civil Engineers, Institution of Structural Engineers, Chartered Institution of Highways and Transportation and the Institute of Highway Engineers (via the Joint Board of Moderators) for BEng/MEng Civil Engineering, BEng/MEng Structural and Fire Safety Engineering, BEng/MEng Structural and Fire Safety Engineering and MSc Fire Engineering Science programmes.

Appendices

Appendix 1: Range of provision considered by the review

List of programmes covered by the review

Programme Code	Programme Name
UTENUNK	General Engineering (Year 1 only)
Accredited Undergraduate Programmes	
UTCHENB	Chemical Engineering (BEng Hons)
UTCHENM	Chemical Engineering (MEng Hons)
UTCVENB	Civil Engineering (BEng Hons)
UTCVENM	Civil Engineering (MEng Hons)
UTSENAB	Structural Engineering with Architecture (BEng Hons)
UTSENAM	Structural Engineering with Architecture (MEng Hons)
UTSFSEB	Structural and Fire Safety Engineering (BEng Hons)
UTSFSEM	Structural and Fire Safety Engineering (MEng Hons)
UTBNGELCOS1F	Electronics and Computer Science (BEng Hons)
UTELECS	Electronics and Computer Science (MEng Hons)
UTELEEB	Electronics and Electrical Engineering (BEng Hons)
UTELEEM	Electronics and Electrical Engineering (MEng Hons)
UTEMENB	Electrical and Mechanical Engineering (BEng Hons)
UTEMENM	Electrical and Mechanical Engineering (MEng Hons)
UTMCHEB	Mechanical Engineering (BEng Hons)
UTMCHEM	Mechanical Engineering (MEng Hons)
Unaccredited Undergraduate Programmes	
UTBSCENGIS1F	BSc Ordinary Sciences ENG
UTBENCHEET1F	Chemical Engineering Technology (BEng Hons)
UTMENCHEET1F	Chemical Engineering Technology (MEng Hons)
UTBENCVLET1F	Civil Engineering Technology (BEng Hons)
UTMENCVLET1F	Civil Engineering Technology (MEng Hons)
UTBENSTETA1F	Structural Engineering Technology with Architecture (BEng Hons)
UTMENSTETA1F	Structural Engineering Technology with Architecture (MEng Hons)
UTBENSFSET1F	Structural and Fire Safety Engineering Technology (BEng Hons)
UTMENSFSET1F	Structural and Fire Safety Engineering Technology (MEng Hons)
UTBENELCST1F	Electronics and Computer Science Technology (BEng Hons)
UTMENELCST1F	Electronics and Computer Science Technology (MEng Hons)
UTBENELEET1F	Electronics and Electrical Engineering Technology (BEng Hons)
UTMENELEET1F	Electronics and Electrical Engineering Technology (MEng Hons)
UTBENELMET1F	Electrical and Mechanical Engineering Technology (BEng Hons)
UTMENELMET1F	Electrical and Mechanical Engineering Technology (MEng Hons)
UTBENMECET1F	Mechanical Engineering Technology (BEng Hons)
UTMENMECET1F	Mechanical Engineering Technology (MEng Hons)

Visiting Undergraduates	
VSCRDENGS1	Semester 1 Courses for Visiting Students ENG
VSCRDENGS2	Semester 2 Courses for Visiting Students ENG
VSCRDENGFY	Full Year Courses for Visiting Students ENG
Taught Masters Programmes	
PTMSCADVCE1F	Advanced Chemical Engineering (MSc) - 1 Year (Full-time)
PTMSCFIREE1F	Fire Engineering Science
VTNGTMSCFS1F	VS Fire Safety Engineering (MSc) (1 Semester)
VTNGTMSCFS3F	VS Fire Safety Engineering (MSc) (Year 2 - Semester 4)
PTMSCADPOE1F	Advanced Power Engineering (MSc) - 2 Years (Full-time)
PTMSCELPOS1F	Electrical Power Engineering (MSc) - 1 Year (Full-time)
PTMSCELECT1F	Electronics (MSc)
PTMSCSENIS1F	Sensor and Imaging Systems - (MSc) (Jointly awarded with the University of Glasgow)
PTMSCSIPRC1F	Signal Processing and Communications (MSc) (Full-time)
PTMSCDDMAN1F	Digital Design and Manufacture (MSc) - 1 Year (Full-time)
PTMSCSUSES1F	Sustainable Energy Systems (MSc)
Exit Awards for Accredited Taught Masters Programmes	
PTMSCETCHE1F	Engineering Technology (Chemical Engineering)
PTMSCFIREX1F	Engineering Technology (Fire Engineering Science) (MSc)
PTMSCETAPE1F	Engineering Technology (Advanced Power Engineering)
PTMSCETEPE1F	Engineering Technology (Electrical Power Engineering)
PTMSCETSES1F	Engineering Technology (Sustainable Energy Systems)

Appendix 2: University remit

The University remit provides consistent coverage of key elements across all of the University's internal reviews (undergraduate and postgraduate). It covers all credit bearing provision within the scope of the review, including:

- Provision delivered in collaboration with others
- Transnational education
- Work-based provision and placements
- Online and distance learning
- Continuing Professional Development (CPD)
- Postgraduate Professional Development (PPD)
- Provision which provides only small volumes of credit
- Joint/Dual Degrees
- Massive Open Online Courses MOOCs (even if non-credit bearing)

1. Strategic overview

The strategic approach to:

- The management and resourcing of learning and teaching experience,
- The forward direction and the structures in place to support this.
- Developing business cases for new programmes and courses,
- Managing and reviewing its portfolio,
- Closing courses and programmes.

2. Enhancing the Student Experience

The approach to and effectiveness of:

- Supporting students in their learning
- Listening to and responding to the Student Voice
- Learning and Teaching
- Assessment and Feedback
- Accessibility, Inclusivity and Widening Participation
- Learning environment (physical and virtual)
- Development of Employability and Graduate Attributes
- Supporting and developing staff

3. Assurance and Enhancement of provision

The approach to and effectiveness of maintaining and enhancing academic standards and quality of provision in alignment with the University Quality Framework:

- Admissions and Recruitment
- Assessment, Progression and Achievement
- Programme and Course approval
- Annual Monitoring, Review and Reporting
- Operation of Boards of Studies, Exam Boards, Special Circumstances
- External Examining, themes and actions taken
- Alignment with SCQF (Scottish Credit and Qualifications Framework) level, relevant benchmark statements, UK Quality Code
- Accreditation and Collaborative activity and relationship with Professional/Accrediting bodies (if applicable)

Appendix 3: Additional information considered by review team

Prior to the review visit:

- Reflective Report
- Academic Standards Scrutiny document
- List of programmes and courses
- School Committee Structure and Organisation Chart
- UG and PGT External Examiner reports (2021/22, 2022/23 and 2023/24
- Accreditation reports and status letters
- Organisational charts and staff information
- Programme handbooks (online)
- Statistical reports
- SSLC minutes
- NSS & PTES reports, and associated school reflection reports
- University Remit
- Previous Report - Teaching Programme Review of Engineering (2019)
- 1 Year Response to previous IPR (2020)
- UG-PGT Engineering Careers Service Supporting Information
- SWAY Report

Appendix 4: Number of students

Undergraduate

Entrants for selected Programmes

(The number of students who enter on to the selected programmes each year.)

	2024/25		2023/24		2022/23		2021/22		2020/21	
Programme	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**
Chemical Engineering (BEng Hons)	53	55	40	37	51	49	26	27	32	30
Chemical Engineering (MEng Hons)	41	42	38	37	46	45	35	33	37	41
Civil Engineering (BEng Hons)	32	33	21	22	23	21	19	19	25	26
Civil Engineering (MEng Hons)	12	15	11	12	17	16	16	16	17	17
Electrical and Mechanical Engineering (BEng Hons)	10	12	12	12	13	14	12	13	13	13
Electrical and Mechanical Engineering (MEng Hons)	18	20	25	26	11	12	13	15	15	16
Electronics and Computer Science (BEng Hons)	19	20	12	14	24	24	37	37	25	24
Electronics and Computer Science (MEng Hons)	11	12	18	18	10	10	11	11	13	13
Electronics and Electrical Engineering (BEng Hons)	82	84	61	61	67	70	78	81	62	63
Electronics and Electrical Engineering (MEng Hons)	27	27	26	28	16	17	22	21	17	17
Full Year Courses for Visiting Students ENG		5		8		6		4		2
General Engineering (Year 1 only)	44	41	36	38	52	52	55	45	40	37
Mechanical Engineering (BEng Hons)	80	79	48	46	65	64	82	88	58	58
Mechanical Engineering (MEng Hons)	83	82	51	50	60	61	63	63	44	45
Semester 1 Courses for Visiting Students ENG		46		54		43		23		18
Semester 2 Courses for Visiting Students ENG				52		47		33		8
Structural and Fire Safety Engineering (BEng Hons)	1	1	1	1	1	2	1	1	0	
Structural and Fire Safety Engineering (MEng Hons)	0		0		0	1	1	1	2	2
Structural Engineering with Architecture (BEng Hons)	8	7	5	4	15	13	12	12	6	6
Structural Engineering with Architecture (MEng Hons)	7	6	2	1	13	13	10	10	6	6
Total	**528**	**587**	**407**	**521**	**484**	**580**	**493**	**553**	**412**	**442**

Postgraduate Taught

Entrants for selected Programmes

(The number of students who enter on to the selected programmes each year.)

	2024/25		2023/24		2022/23		2021/22		2020/21	
Programme	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**	**Entrants**	**Students**
Advanced Chemical Engineering (MSc) - 1 Year (Full-time)	14	14	25	25	17	17	26	26	0	
Advanced Power Engineering (MSc) - 2 Years (Full-time)	7	5	13	13	5	5	7	6	15	14
Digital Design and Manufacture (MSc) - 1 Year (Full-time)	29	29	22	22	27	27	8	8		
Electrical Power Engineering (MSc) - 1 Year (Full-time)	21	23	18	18	28	28	35	36	52	53
Electronics (MSc)	22	22	27	27	44	44	32	32	0	
Fire Engineering Science	7	7	7	7						
Leading Major Programmes (MSc) - 2 Years (Part-Time)					0		5	5		
Leading Major Programmes (PgCert) - 2 Years (Part-Time)					0		5	5		
Sensor and Imaging Systems - (MSc) (Jointly awarded with the University of Glasgow)	0		21	21	48	48	48	48	46	46
Signal Processing and Communications (MSc) (Full-time)	26	26	28	28	26	26	45	45	86	86
Structural and Fire Safety Engineering (MSc)					14	14	17	17	0	
Sustainable Energy Systems (MSc)	44	44	50	50	42	42	67	67	78	78
VS Fire Safety Engineering (MSc) (1 Semester)		14		12		16		11		7
VS Fire Safety Engineering (MSc) (Year 2 - Semester 3)						5		7		
VS Fire Safety Engineering (MSc) (Year 2 - Semester 4)				5		4		1		7
VS Fire Safety Engineering (MSc) Semesters 3 and 4						3		3		
Total	**170**	**184**	**211**	**228**	**251**	**279**	**295**	**317**	**277**	**291**