The University of Edinburgh

Internal Periodic Review

School of Physics and Astronomy
Undergraduate (UG) and Postgraduate Taught (PGT)

20 and 21 March 2024

Contents

Executive summary

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

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 commended the School for the comprehensive support provided to students, this includes the well-attended cohort-lead led events and the proactive support provided to neurodiverse students. The team also commends the responsiveness to the student voice from those in teaching leadership positions such as the Director of Teaching. In addition, the team commends the School for their efforts to reflect on recent challenges and to support students with pandemic related knowledge gaps to succeed in their transition to university. The team also commend the recent improvements to teaching spaces and the provision of iPads to all new students in order to close digital poverty gaps and ensure that all students are provided with the tools they need to engage in their studies.

Key recommendations
The top three recommendations identified by the review team for the School to prioritise were:

- The team **recommend** that the School move forward with plans to develop and deliver the 'transition to mathematics for physics' level 7 course which aimed to close identified gaps in student knowledge and performance. The review team additionally **recommend** that the School measure and review this initiative to determine its effectiveness in resolving the problem it seeks to address.

- The review team **recommend** that the School develop a position on what constitutes 10 and 20 credit courses in order to develop greater consistency across courses and programmes. This should include contact hours and content and assessment volume. The review team also **recommend** that when the School undertakes the planned curriculum review, that they develop more authentic 20 credit courses, rather than two 10 credit courses merged together, which the School acknowledge added up to greater than 20 credits in terms of content.

- The review team **recommend** that the School seek to review the volume of assessment, both examination and in-course assessment, across the programmes with a view to both reduce the jeopardy of exams and make in-course assessment weightings more meaningful. This should reduce the amount of in-course assessment, but make the individual pieces of assessment worth more marks.

Commendations, recommendations and suggestions

Commendations

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

No	Commendation	Section in report
1	The review team **commend** the School for its creativity in developing the new 'super-TA' role to support both teaching and early career researchers.	1.2
2	The review team **commend** the development of new masters' programmes that showcase and leverage the breadth of research expertise in the School.	1.5
3	The review team **commend** the School for efforts in place to reflect on recent challenges and to support students with pandemic related knowledge gaps to succeed in their transition to university.	1.10
4	The review team **commend** the Student Advisors who were clearly working very hard to support students.	2.3.3
5	The team are also **commended** for being receptive to student feedback to continue to make improvements to this new service.	2.3.3
6	The review team **commend** the teaching office and student support office staff for their work to support students, teaching and assessment during this very challenging period.	2.3.4
7	The review team were impressed by the commitment of those in cohort lead roles and **commend** the cohort lunch events for the provision of social and academic aligned activities.	2.3.7
8	The review team **commend** the work of the Director of Teaching and the wider teaching team in listening to the student voice and in their willingness to effect change. There was clear evidence in all sessions with students, both UG and PGT, that issues raised by students were considered and addressed where possible.	2.4.5
9	Since the time of the pandemic the School had provided all new students with an iPad. iPads had been pre-loaded with UoE software to provide all students with the facilities to engage with required online resources, including electronic submission of assessments. This provision was highly welcomed by the students. The review team **commend** the School for this initiative which supported widening participation through actively working to close digital poverty gaps.	2.5.1
10	The review team **commend** the proactive support demonstrated by the School for neurodiverse students.	2.5.2
11	Despite the high workloads described by students during the review, the review team were impressed with students' obvious willingness to support their peers when they were struggling and the team **commend** the students for their collegial approach to peer support.	2.5.4
12	The review team **commend** the recent refurbishments made to teaching and student social spaces, with staff evidently proud to show the team around the newly refurbished laboratories.	2.8.2
13	The review team were impressed with the social spaces provided to students and **commend** the School for their commitment to provide spaces to support student wellbeing and community building.	2.8.3
14	There was reported to be good engagement with the virtual learning environment Piazza, particularly on the run up to exams. The review team **commend** the use and engagement with this system by both staff and students.	2.8.8

Recommendations
Areas for development and enhancement – progress to be reported.

Priority	Recommendation	Section in report	Responsibility of
1	The team **recommend** that the School move forward with plans to develop and deliver the 'transition to mathematics for physics' level 7 course which aimed to close identified gaps in student knowledge and performance. The review team additionally **recommend** that the School measure and review this initiative to determine its effectiveness in resolving the problem it seeks to address. This might include assessing the impact of key aspects such as the timing of testing and monitoring those cohorts most impacted.	1.10	**Head of School/Director of Teaching**
2	The review team **recommend** that the School develop a position on what 10 and 20 credit courses should look like in order to develop greater consistency across courses and programmes. This should include contact hours and content and assessment volume. The review team also **recommend** that when the School undertakes the planned curriculum review, that they develop more authentic 20 credit courses, rather than two 10 credit courses merged together, which the School acknowledge added up to greater than 20 credits in terms of content.	2.1.5	**Head of School/Director of Teaching**
3	The review team **recommend** that the School seek to review the volume of assessment, both examination and in-course assessment, across the programmes with a view to both reducing the weightings of exams and making in-course assessment weightings more meaningful. This should reduce the total amount of in-course assessment, but make individual pieces of assessment worth more marks.	2.2.3	**Head of School/Director of Teaching**
4	The review team **recommend** that the School review the junior honours year with a view to reducing the overall workload.	2.1.7	**Head of School/Director of Teaching**
5	The team **recommend** that the School conduct 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	2.2.3	**Head of School/Director of Teaching**

	greater understanding of overall delivery of provision and its impact on students.		
6	The review team also **recommend** that the School look to embed different opportunities for formative assessment and feedback in place of some assessed in-course submissions.	2.2.4	**Head of School/Director of Teaching**
7	The review team **recommend** that the School use the changes in approach from the IoP to review delivery in terms of the volume of content and investigate opportunities for supporting students to develop skills that would facilitate their development as independent learners.	2.1.6	**Head of School/Director of Teaching**
8	The review team **recommend** that the Student Advisors go ahead with plans to use a variety of methods to make the service more visible to students.	2.3.3	**Head of School/Director of Professional Services**
9	The review team **recommend** that the School measure the utilisation of the student support service, for example through introducing metrics.	2.3.5	**Head of School/Director of Professional Services**
10	The team **recommend** that demarcation between the Student and Academic Advisor roles be clearly communicated to students to ensure clarity of roles. The team also **recommend** that the School monitor the operation of the model over time to measure its effectiveness and to monitor the workload of these roles.	2.3.9	**Head of School/Director of Teaching/Director of Professional Services**
11	The review team **recommend** that the School continue its efforts to improve response rates to mid-course feedback and continue to close feedback loops for the feedback that was received.	2.4.6	**Head of School/Director of Teaching**
12	The review team saw evidence of effective training provided to TAs. However, TAs reported that training and induction was variable across cohorts and courses. The review team **recommend** that the School implement a mechanism to ensure consistent induction to courses and that training includes all key elements (for example, TAs reported training on Gradescope was not provided this academic year).	2.7.7	**Head of School/Director of Teaching/Director of PGR**
13	In discussions with student TAs, it was evident that they were not aware of opportunities for development of their teaching outside the School. The review team **recommend** that the School provide greater visibility and encouragement to engage with training opportunities for	2.7.8	**Head of School/Director of Teaching/Director of PGR**

	teaching such as the Edinburgh Award and HEA Fellowships.		
14	The review team **recommend** that the timetabling unit prioritise spaces such as computer labs based within the School for local needs.	2.8.6	**Timetabling Unit**
15	The review team recognised the School's need for greater resources to support teaching and **recommend** that the School go ahead with plans outlined to increase the number of TAs to support this activity.	1.3	**Head of School/Director of PGR**
16	The review team **recommend** that the College support applications for post approval for teaching administrators and Student Advisors in light of increased student numbers in the School.	2.7.3	**College**

Suggestions
For noting – progress reporting is not required.

No	Suggestion	Section in report
1	The review team **suggest** that the School share any key learnings as appropriate with the wider University as other areas may face similar challenges. (In relation to the proposed transitional course mathematics for physics).	1.10
2	The review team recognise the School's commitment to optionality and flexibility in offering this level 7 course as an elective option, particularly in light of current applicants having accepted an offer on the basis of information advertising certain optionality. However, the review team **suggest** that once this measure has been reviewed and if determined to be successful, that communications to applicants in future years highlight that reduced elective choices would be available if results from the diagnostic test suggest that taking this course would be advisable. During the review there was a discussion around instances where students lacked a realistic appreciation of their own limitations and the risk that not all students who would benefit from this course may take it. In this light, and as undertaking the course would be optional, the review team **suggest** that it may be of value to offer this course as an option or for the materials to be available for students to audit, in a later year of the programme.	1.11
3	The review team **suggest** that the School consider describing typical exemplar pathways that could be taken through the MSc programmes to support students to navigate the large number of course choices available.	2.1.8
4	The review team **suggest** that the School consider the feedback received from students during the review visit about the delivery of course 'problem solving in theoretical physics' with a view to implementing suggested amendments where possible.	2.1.9

5	For core combinations with courses outside the School, the review team **suggest** that the School make use of the College network of Directors of Teaching to discuss key pinch points in terms of submission hand-ins.	2.2.3
6	The review team **suggest** that the School make use of existing resources such as the Edinburgh Learning Design Roadmap (ELDeR). The ELDeR process is a method to ensure alignment of course aims, learning outcomes and assessments and offers an opportunity to review consistency of assessment volume and hours of notional effort across courses.	2.2.4
7	The review team **suggest** that the School consider releasing assessments after reading week where appropriate to promote the use of this time for reflection and consolidation of learning.	2.2.5
8	The review team **suggest** that the School consider implementing activities such as the cohort lunches for PGT students on a cross-programme basis to provide community building opportunities for this cohort.	2.3.8
9	In relation to peer support schemes, the reflective report noted that there was low recruitment to these voluntary roles and the review team **suggest** the School explore ways to encourage uptake.	2.5.4
10	The review panel **suggest** that the School look at more formal mechanisms to make greater use of more experienced TAs and 'super TAs' in undertaking peer support and sharing experience with those newer to the role.	2.7.9
11	The review team **suggest** that the School monitor the teaching load of 'Super TAs' to ensure it does not impinge on research time which is also part of their contracts.	2.7.10

Section A – Introduction

Scope of review

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

The Internal Periodic Review of the School of Physics and Astronomy in 2023/24 consisted of:

- The University's remit for internal review (see Appendix 2)
- The subject specific remit items for the review**:**
    - Workload: How can we improve the relative workload across our taught courses?
    - Resource: How can we ensure that our teaching programme is adequately resourced in light of the recent years steady increase in UG cohort?
- 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:	Professor John Mason, Biomedical Sciences
External review team member:	Professor Maurizio Piai, Swansea University
Internal review team member:	Dr Pauline Ferguson, Business School
Student Review team member:	Preethika Nannapaneni, PGT student, Law
Administrator:	Victoria Bennett, Quality Officer, CMVM
Observer:	Sophie McCallum, Student Systems

The School

The School of Physics and Astronomy is based in the College of Science and Engineering and delivers a number of undergraduate and postgraduate programmes accredited by the Institute of Physics (IoP).

School research institutes include the Institute for Astronomy (IfA), the Institute for Condensed Matter and Complex Systems (ICMCS) and the Institute for Particle and Nuclear Physics (IPNP). The School has a number of research centres: the UK Centre for Astrobiology, the Higgs Centre for Theoretical Physics, the Tait Institute and the Centre for Science at Extreme Conditions.

Physical location and summary of facilities

The School is based in the James Clerk Maxwell Building on the Kings Buildings Campus with some teaching and facilities based at the Royal Observatory Edinburgh. Some teaching takes place in other University buildings across Kings Buildings and in the central area.

Date of previous review

7th and 8th November 2017.

Reflective Report

Dr Kristel Torokoff, Director of Teaching for the School of Physics and Astronomy led the preparations for the review for the School, including the preparation of the reflective report. Role holders across the School contributed to the report including the Head of School, Director of Quality, Director of Assessment, Director of Students, Director of Professional Services and Academic Administer. A number of Programme Directors listed on the reflective report cover page also contributed.

The School conducted a process to identify the subject specific remit items involving both staff and students, with the top choice from both groups taken forward as items for the review.

Section B – Main report

1 Strategic overview

1.1 The Head of School provided the panel with an overview of the School, including research institutes, taught programmes and both staff and student numbers. There were approximately 1000 taught students, 450 research active staff and 75 professional services staff (technicians, administrators and student support staff). The School was research-led with an ethos that all staff were expected to both teach and undertake research.

1.2 There was currently no teaching-only professional route. However, a grade 7 teaching fellow contract was being developed to support teaching linked to a significant growth in undergraduate student numbers over recent years. PGR student numbers and therefore Teaching Assistant (TA) numbers had not grown in line with the growth in UG student numbers and this grade 7 'super-TA' role was hoped to bridge the gap on a fixed term basis. This type of contract was successfully utilised during the pandemic and both supported teaching in the School and offered an opportunity for those existing TAs with experience who had not yet attained their next role. These contracts were 50% teaching and 50% research and gave role holders opportunities to develop their research interests and develop their teaching experience. The School was committed to maintaining this teaching and research mix in academic staff roles. The review team **commend** the School for its creativity in developing the new 'super-TA' role to support both teaching and early career researchers.

1.3 On average, each academic member of staff supervised two PhD students. There was an ambition within the School to increase this number. With various initiatives underway such as the development of 9 School-funded PhD studentships per year, the development of a CDT and other interdisciplinary PhD programmes, it was anticipated that PGR numbers would increase by 30-40. Most PhD students chose to undertake TA duties and this increase would significantly support teaching within the School. The review team recognised the School's need for greater resources to support teaching and **recommend** that the School go ahead with plans outlined to increase the number of TAs to support this activity.

1.4 The Head of School reported that there had been significant growth in student numbers, particularly undergraduate student numbers, during the past 5-6 years with the incoming cohorts significantly bigger than outgoing cohorts. The School reported that UG student numbers were now at capacity, based on estates restraints and capacity to supervise research projects. There was an ambition to maintain this number rather than add to growth and projected fee income for the School was based on maintaining numbers at recent levels. Growth in recent years had come mainly from international fee-paying students with home and EU numbers relatively flat. The School had an excellent international reputation which supported growth in international numbers, with currently approximately 70 international UG students per year.

1.5 There was some capacity for growth in PGT numbers, with the School's PGT population one of the smallest in the College of Science and Engineering. A new MSc programme had been launched in academic year 2023/24 which was anticipated to grow. There were also early discussions taking place around the development of a new MSc in Imaging. Both new MSc programmes were developed

out of existing School areas of research expertise. The review team **commend** the development of new masters' programmes that showcase and leverage the breadth of research expertise in the School.

1.6 The PGT population was mainly made up of students who had undertaken their BSc at institutions other than the University of Edinburgh. The school recognised a limited audience for students with an MPhys from UoE choosing to take an MSc in Physics here. However, it was anticipated that these new MSc programmes in topics not covered by the MPhys programme would be attractive to UoE undergraduate students.

1.7 The senior team outlined a newer challenge facing the School; a number of students were embarking upon undergraduate studies with significant gaps in their physics and maths knowledge and ability. This was considered to be in relation to the impact of the pandemic on teaching in Schools, where some students had an incomplete education. It was also noted that some impacts on student performance may be wider than the pandemic, for example, the cost-of-living crisis resulting in students requiring part-time work to support themselves. Initially the teaching team had worked through mitigation measures such as catch-up and revision sessions. However, the scale of gaps was more significant than had been initially understood. It was noted that impacts from the marking and assessment boycott (MAB) had delayed understanding of student performance. The School recognised that further measures were required to support impacted students. This picture was reflected in discussion with students in first and second years of the programme. They reported gaps in their education and significant challenges catching up and then keeping up with the pace of the programme. One student noted that their year was known as the 'quiet cohort' and reflected that their lack of engagement in class discussions was related to their lack of understanding, even in knowing what questions to ask.

1.8 Maths ability on entry was reported to be mixed. Some students entered with sufficient maths understanding to undertake the programme as in past years, with others coming in without levels of maths understanding or competencies staff would have expected based on the qualifications they presented with. Strong students were reported to sail through independently with others requiring more support on an ongoing basis. To address this the School were developing a SCQF level 7 course, 'transition to mathematics for physics'. This course would cover topics where staff had identified issues experienced by students in recent years. It would consist of more directed teaching with an aim to close gaps. As well as delivering key content this course would teach students how to access resources, how to set and solve problems and how to learn effectively at university level.

1.9 This course would not be aimed at the full cohort as not all students would need to take it. The team were also keen that the course would not be seen as remedial learning and so discourage students. The course would instead be offered as an elective with some diagnostic measures in place ahead of the programme commencing, in welcome week and week one, to determine which students would most benefit from taking it. While still under development, it was anticipated that some type of assessment would take place, with academic advisors directing students to take this course where they believed it was necessary based on results. It was not yet known if the need for this course would be temporary until the impacts of the pandemic had run their course, or if it would be necessary to maintain this option in the longer term. The team acknowledged that if the introduction of this course did not deliver the hoped-for results, then the team would need to re-think how to address this significant issue, perhaps re-organising teaching across the programme to support this struggling sub-section of the cohort.

1.10 The review team **commend** the School for efforts in place to reflect on recent challenges and to support students with pandemic related knowledge gaps to succeed in their transition to university. The team **recommend** that the School move forward with plans to develop and deliver the 'transition to mathematics for physics' level 7 course which aimed to close identified gaps in student knowledge and performance. The review team additionally **recommend** that the School measure and review this initiative to determine its effectiveness in resolving the problem it sought to address. This might include assessing the impact of key aspects such as the timing of testing and monitoring those cohorts most impacted. The review team **suggest** that the School share any key learnings as appropriate with the wider University as other areas may face similar challenges.

1.11 The review team recognise the School's commitment to optionality and flexibility in offering this level 7 course as an elective option, particularly in light of current applicants having accepted an offer on the basis of information advertising certain optionality. However, the review team **suggest** that once this measure has been reviewed and if determined to be successful, that communications to applicants in future years highlight reduced elective choices would be available if results from the diagnostic test suggest that taking this course would be advisable. During the review there was a discussion around instances where students lacked a realistic appreciation of their own limitations and the risk that not all students who would benefit from this course may take it. In this light and as undertaking the course would be optional, the review team **suggest** that it may be of value to offer this course as an option or for the materials to be available for students to audit, in a later year of the programme.

1.12 The senior team reported that there had been ongoing discussions within the School on the Curriculum Transformation project. In general, staff were enthusiastic about the opportunity to review 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. It was also hoped that the project would address university-wide issues such as timetabling. The School were keen to retain control over degree programmes in order to maintain IoP accreditation. However, pragmatic approaches to review curriculum were welcomed, with particular enthusiasm for the university's approach to PGT programmes under the project. One aspect of the project that appealed to the teaching team were potential opportunities to decouple assessment from courses and look at programmatic assessment.

2 Enhancing the student experience - The approach to enhancing Learning and Teaching

2.1 Curriculum Design and Development

2.1.1 The School operated a Teaching Committee (supported by Teaching Forums) and School Board of Studies. Together these bodies govern the development and approval of changes to provision, development of new courses and programmes and closure of courses and programmes.

2.1.2 In general, undergraduate programmes within the School followed a similar pattern. Core courses, including shared core courses, were predominately delivered in earlier years with programmes branching off into specific disciplines from the junior honours

year. There were opportunities for greater optionality as the years progressed. The School was committed to providing a high level of choice for students to explore topics of interest across a large suite of elective options spanning research expertise within the School. Each degree programme also had specific electives aligned with its discipline.

2.1.3 The School owned a large number of 10 credit courses, in both UG and PGT provision. During the review, the team explored the reasons for this provision and the effectiveness of this model with the School. The School reported that the historically topic-based approach of the accrediting body, along with the requirement for programmes in other Schools to access courses, resulted in the high number of 10 credit courses in place. The review team recognised that while the School might choose to move more towards courses of 20 credits, there were existing constraints around reducing or removing 10 credit courses due to the requirement for the School to offer courses as electives for programmes in other Schools.

2.1.4 In general, each 10-credit course consisted of two lectures and two workshops per week. A 20-credit course would normally consist of four hours of lectures and 3 hours of workshops. Contact hours for 10 credit courses were noted to be comparatively high. During the review it was apparent that the difference between 10 and 20 credit courses was not clear to students. Students described 10 and 20 credit courses with high levels of content, time commitment and assessment load and recognised where 20 credit courses had been made up of two 10 credit halves based on the considerable volume of work. Discussions with teaching teams confirmed that a previous mini-review of curriculum had resulted in a number of instances where two 10 credit courses were merged into 20 credit courses. One of the outcomes of this review had been to reduce the number of exams based on student reports of high assessment volume, however, due to the volume of contact hours, the amount of content delivered and level of in-course assessment, overall workload remained high. It was noted that where new courses and programmes were developed, content and volume of assessment were taken into consideration, but there was no systematic approach to ensuring existing courses maintained sustainable levels or that older courses were reviewed. The School recognised it was timely to review programmes holistically and welcomed the opportunity that the Curriculum Transformation project would bring to do so.

2.1.5 The review team **recommend** that the School develop a position on what 10 and 20 credit courses should look like in order to develop greater consistency across course and programmes. This should include contact hours and content and assessment volume. The review team also **recommend** that when the School undertakes the planned curriculum review, that they develop more authentic 20 credit courses, rather than two 10 credit courses merged together, which the School acknowledge added up to greater than 20 credits in terms of content.

2.1.6 It was noted that the programme accrediting body, the Institute of Physics (IoP), had historically been very topic focused with a requirement for specific topic coverage within individual programmes. It was reported to the review team that the IoP planned to move away from this content-based approach in the upcoming accreditation period. The review team **recommend** that the School use these changes in approach from the IoP to review delivery in terms of the volume of content and investigate opportunities for supporting students to develop skills that would enable them to develop as independent learners.

2.1.7 During the review discussions took place with both staff and students about the volume of workload associated with courses. This had been identified by students as their priority issue and was taken forward as one of the subject specific remit items for the review. The review team met with students in the later years of the MPhys programme on the first day of the review. Students unanimously reported that the workload in the junior honours' year was almost unmanageable. Staff later confirmed that the third year was recognised to be the busiest year. In the meeting with the students, they suggested a range of measures to help mitigate this issue such as reorganising content across years and removing some duplication. The review team **recommend** that the School review the junior honours year with a view to reducing the overall workload.

2.1.8 There was also a particularly large number of elective courses available to PGT students. This level of choice was valued by the PGT students, but they noted that it could be overwhelming knowing which choices to make. The review team **suggest** that the School consider describing typical exemplar pathways that could be taken through the MSc programmes to support students to navigate the large number of course choices available.

2.1.9 PGT students reported that the course 'problem solving in theoretical physics' had aided their transition into postgraduate study, but noted that it would have been more useful if this material was delivered at the beginning in a more intensive way rather than spread throughout the first semester. They also reported that it would be useful to have this material available for reference to review when needed. The review team **suggest** that the School consider the feedback received from students during the review visit about the delivery of course 'problem solving in theoretical physics' with a view to implementing suggested amendments where possible.

2.2 Assessment and Feedback

2.2.1 In relation to workload, students raised high levels of assessment as an issue. While the split of final exam to continuous assessment was mixed across the courses, it was common for the final exam to have a significantly higher weighting compared with the in-course assessment. It was noted that the number of submissions leading to the smaller % of the overall course mark, meant that some assessments were worth very little toward the final course mark despite the effort that students were putting into these assessments. There were concerns from both staff and students that disproportionate time and effort was being placed in undertaking these in-course assessments resulting in reduced time spent on the end of course exam which may be worth up to 80% or 90% of the course mark.

2.2.2 Students spoke positively about opportunities to undertake continuous in-course assessment, particularly in terms of opportunities to 'bank' marks ahead of the high-risk final exams, with students reporting they were spending hours and days on these submissions. In-course assessments were also opportunities to develop knowledge and competencies in the subject area and build confidence ahead of exams, but students would welcome fewer assessments that were worth more marks. Students noted a preference for the courses that had a 60/40 split to those worth 80/20. Students would also welcome more opportunities for formative in-course assessment in place of some of the assessed submissions. This would enable them to receive feedback on their performance with a view to making improvements, rather than spend excessive time striving for individual marks to mitigate the jeopardy of the final exams. It was considered that this approach would lead to a better balance of effort in terms of marks assigned and reduce the high assessment load. Students also

spoke positively about mock exams as an opportunity to receive feedback on their performance and prepare for the final exam.

2.2.3 The review team **recommend** that the School seek to review the volume of assessment, both examination and in-course assessment, across the programmes with a view to both reduce the weighting of exams and make in-course assessment weightings more meaningful. This should reduce the amount of in-course assessment, but make the individual pieces of assessment worth more marks. The team **recommend** that the School conduct 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 impact on students. For core combinations with courses outside the School, the review team **suggest** that the School make use of the College network of Directors of Teaching to discuss key pinch points in terms of submission hand-ins.

2.2.4 The review team also **recommend** that the School look to embed different opportunities for formative assessment and feedback in place of some assessed in-course submissions. The review team **suggest** that the School make use of existing resources such as the Edinburgh Learning Design Roadmap (ELDeR). The ELDeR process was a method to ensure alignment of course aims, learning outcomes and assessments and would offer an opportunity to review consistency of assessment volume and hours of notional effort across courses.

2.2.5 When discussing workload with students it was noted that students felt like there was no space on the programme to catch up and consolidate their learning, with the flexible learning week in the second semester often taken up with undertaking in-course assessments. The review team **suggest** that the School consider releasing assessments after reading week where appropriate to promote the use of this time for reflection and consolidation of learning.

2.3 Supporting students in their learning

2.3.1 The School outlined how they had aligned student support against the new University Student Support model fully rolled out in academic year 2023/24. Student Advisors and Cohort Leads were in place alongside the University Wellbeing Advisor service. There were also two peer support schemes in operation, the Physics Peer Support Service and Maths Buddies. The School had also introduced an additional layer of support outwith the standard model in the role of Academic Advisors. All students were assigned an Academic Advisor who provided guidance around academic matters as required.

2.3.2 The review team met with Student Advisors who outlined how this new layer of student support operated in the School. Emails had been sent twice during the academic year highlighting the service and notifying students who their assigned Student Advisor was. Assigned Student Advisor names were also recorded in EUCLID so students were able to initiate contact with their advisor via email. Student Advisors met students on a one-to-one basis, in person or via MS Teams, as needed, with students welcome to both pop into the Student Advisors' office on an ad hoc basis or make an appointment using the booking system. Where Student Advisors were aware of potential situations where students may be struggling or where students were not engaging, Advisors would reach out proactively to offer support. An escalation process was in place where students were not engaging. Student Advisors reported receiving positive feedback from students who had sought support. During the review, academic staff involved in supporting students spoke very highly about the new Student Advisor team, noting how much support the

Student Advisors provided to them in their roles allowing them to concentrate on providing academic advice as was their expertise.

2.3.3 Students had reported to the review team that they were not necessarily aware who their Student Advisor was. The Student Advisors acknowledged that they were aware of this feedback and were working to make the service more visible, for example, by putting up posters and making use of electronic screens within the building. They were also considering what times were best to communicate to the student body as they recognised the vast quantity of information sent in welcome week meant that things were often missed. The review team **recommend** that the Student Advisors go ahead with plans to utilise a variety of methods to make the service more visible to students. The review team **commend** the Student Advisors who were clearly working very hard to support students. The team are also **commended** for being receptive to student feedback to continue to make improvements to this new service.

2.3.4 The Director of Professional Services reported that at the time of the launch of the new Student Support model, the teaching office was under-resourced due to a high turnover of staff. This turnover included a number of teaching administrators taking up the opportunity to apply for new Student Advisor roles in Schools across the University. In addition to this resourcing challenge, the Marking and Assessment Boycott (MAB) had significantly impacted the School over this period with all professional services staff working hard to mitigate the impacts of MAB on students. Due to these significant challenges, the second phase of the new Student Advisor service had had a 'softer' launch than planned, as the School was concerned not to raise expectations they were unable to fulfil at this pressured time. While not yet at a full complement of staff, it was anticipated that the team would undertake more activities to advertise the service for the start of the next academic year. The review team **commend** the teaching office and student support office staff for their work to support students, teaching and assessment during this very challenging period.

2.3.5 The student support office was made up of 8 members of staff with a total 4.8 FTE. The School still sought to recruit one more Student Advisor due to the growth in student numbers, and an administrator to support the wider support team. It was noted that the student support office was very busy with a significant number of students assigned to each Student Advisor. Academic staff involved in supporting students noted a concern about Student Advisor wellbeing in relation to workload. During the review different staff groups reported that the School had a high proportion of neurodiverse students (estimated to be 35-40% of UG students) compared to other Schools, which impacted the workload of the student support office in supporting students and managing schedules of adjustments. The review team **recommend** that the School measure the utilisation of the student support service, for example through introducing some metrics, to determine how heavily the service was utilised. The review team encouraged the School to reflect on these metrics in order to seek evidence to demonstrate the need for additional Student Advisors, for example based on the higher proportion of students with neurodiversity related support needs in comparison with other similarly sized schools.

2.3.6 A Director of Students, previously the Senior Tutor, was in place leading the student support team. There were regular case meetings between the Director of Students, Student Advisors and relevant Wellbeing advisor from the University Wellbeing Service. The team considered student support needs on a case-by-case basis and referrals were made to relevant role holders based on support needs identified. The Director of Students also had oversight of student learning profiles and schedules of adjustments.

2.3.7 Cohort Leads were assigned by year group. Role holders had responsibility for providing academic support and guidance to a cohort of students, including the provision of cohort-based activities. It was reported that regular cohort events had taken place throughout this first academic year where this role was in place. Events had been well received and were well attended. Students had been provided with an opportunity to give feedback about student support in general and to state what they would like more or less of. Students had made suggestions about the cohort events and events continued to be shaped by this feedback. Third year cohort events took place on a weekly basis during semester and tended to be more informal, providing a regular opportunity to relax with peers, eat lunch together and play board games and musical instruments. Year 4 and 5 events took place 2 or 3 times per semester and were generally more formal with content provided as requested by students, for example, careers guidance. Students and staff spoke highly of this provision. The review team were impressed by the commitment of those in cohort lead roles and **commended** the cohort lunch events for the provision of social and academic aligned activities. Student Advisors also attended cohort events to help facilitate conversations and they had given a presentation at initial sessions to identify themselves and outline the services they provided. Attending the cohort events had helped the Student Advisor service in gaining greater visibility.

2.3.8 PGT students were aware of the cohort events provided to UG students and reported to the review team that they would welcome this layer of support and opportunity for community building. The review team **suggest** that the School consider implementing activities such as the cohort lunches for PGT students on a cross-programme basis to provide community building opportunities for this cohort.

2.3.9 The School had introduced the role of Academic Advisor to their role out of the student support model. Academic Advisors were aligned to the student's programme and there were 30-35 students assigned to each Academic Advisor. Student Advisors and Academic Advisors worked closely together, referring students to each other as appropriate and often working together to provide holistic support. Academic Advisors acknowledged that students sometimes came to them for pastoral support as they often knew them better due to the programme-based relationship, but unless the query was very simple, they would always refer the student to their Student Advisor. It was also noted that some students in later years continued to go to their previous Personal Tutor as this was an established relationship. It was anticipated that this would dissipate as the new model bedded in and more senior students moved through their programmes. The review team were impressed by the commitment of staff to student support and were encouraged by the implementation of the student support model within the School, including the layer of Academic Advisors. However, the team **recommend** that demarcation between the Student and Academic Advisor roles was clearly communicated to students to ensure clarity of roles. The team also **recommend** that the School monitor the operation of the model over time to measure its effectiveness and to monitor the workload of these roles.

2.4. Listening and responding to the Student Voice

2.4.1 During the review team visit students confirmed opportunities to provide feedback outlined within the reflective report. These included opportunities to provide course specific feedback mainly through mid-course feedback opportunities, participation at student-staff liaison committees, via student representatives on committees and via ad hoc conversations with teaching staff.

2.4.2 Each course provided opportunities to provide mid-course feedback. This activity was coordinated by the teaching office and normally took place in week 5 or 6. Course Organisers employed a variety of methods including in-class processes such as 'stop, start and continue', and online surveys. In general, response rates to mid-course feedback were low, making it challenging to identify themes and trends. Staff were confident, however, that problems were raised with them. Students attending sessions with the review team also acknowledged they were more likely to provide feedback if there were specific problems to raise or if there was something particularly positive that they wanted to report. Course Organisers reported that they fed back in class what feedback was received and how they planned to address it.

2.4.3 The Director of Teaching reported that Student Staff Liaison Committees (SSLC) took place twice a semester. These were well attended and contained vibrant discussion. Students also provided ad hoc feedback on an individual basis during workshops. Staff also reported seeing students informally at cohort lead events which were also opportunities for students to relax, get to know each other and build community.

2.4.5 During meetings between the review team and the students, student representatives reported a good level of engagement with teaching staff. They spoke very highly of the Director of Teaching who was noted to be receptive to feedback and who had initiated welcome changes based on their feedback. The review team **commend** the work of the Director of Teaching and the wider teaching team in listening to the student voice and in their willingness to effect change. There was clear evidence in all sessions with students, both UG and PGT, that issues raised by students were considered and addressed where possible.

2.4.6 The review team recognised the challenges around addressing low student engagement with course feedback opportunities and acknowledged that this was an ongoing challenge experienced across the University. The review team **recommend** that the School continue its efforts to improve response rates to mid-course feedback and continue to close feedback loops for the feedback that was received. It is recognised that students do provide feedback at SSLCs and in an ad hoc basis and that students considered that feedback they raised was addressed where this was possible. The team suggest that the School make use of the well-attended cohort lead events taking place to identify opportunities to seek student feedback, while recognising that the primary role of these events was student support and community building.

2.5 Accessibility, Inclusivity and Widening Participation

2.5.1 Since the time of the pandemic the School had provided all new students with an iPad. iPads had been pre-loaded with UoE software to provide all students with the facilities to engage with required online resources, including electronic submission of assessments. This provision was highly welcomed by the students. The review team **commend** the School for this initiative which supported widening participation through actively working to close digital poverty gaps.

2.5.2 During the review, teaching staff and professional services staff noted the high proportion of neurodiverse students on programmes within the School. The School had an active Neurodiversity Network which had developed out of the Equality, Diversity and Inclusion Committee. The network was set up by a neurodiverse post-doctoral student who had identified a gap in support for this community and with the support of the EDI committee, set up the network to provide support and community

for neurodiverse staff and students within the School. The network was run jointly with the School of Maths, had an active Teams site, and organised monthly lunch time sessions for both staff and students. One of the Student Advisors reported that they had received positive feedback about the network from students who attended the sessions. The network offered support and signposting to internal and external sources of support. The network and Student Advisors were noted to be good sources of support in helping staff develop confidence to better support the neurodiverse student cohort with the School. The review team **commend** the proactive support demonstrated by the School for neurodiverse students.

2.5.3 The School currently hold the Institute for Physics Juno Champion and Athena Swan silver awards both valid until 2027.

2.5.4 The Physics Peer Mentoring Scheme (PPMS) was developed since the previous internal review to benefit students who were struggling, in particular students from widening participation backgrounds. The School also operated a student-run Maths Buddies scheme to support students struggling with maths. Despite the high workloads described by students during the review, the review team were impressed with students' obvious willingness to support their peers when they were struggling and the team **commend** the students for their collegial approach to peer support. In relation to peer support schemes, the reflective report noted that there was low recruitment to these voluntary roles and the review team **suggest** the School explore ways to encourage uptake.

2.6 Development of Employability and Graduate Attributes

2.6.1 At the remit meeting ahead of the review itself, the Career Advisor associated with the School reported that the Institute of Physics was one of the best professional bodies for the provision of careers resources for students, and students were encouraged to make use of this resource. The Career Advisor had a standing invitation to Student Staff Liaison Committee and a careers session had been organised for one of the cohort lead events which had been well attended.

2.6.2 The review team met some PGT students during the review. Most of these PGT students had the ambition to undertake PhD study subsequent to the completion of their programme. They reported that they had received support and guidance from the School for making applications to PhD programmes. PGT students also had the opportunity to undertake dissertation projects with research institutes sourced via School contacts with partner institutions.

2.7 Supporting and developing staff

2.7.1 All academic and professional services staff were provided with a performance and development review on an annual basis.

2.7.2 The review team met with staff from the teaching office. As noted earlier in the report, the team had been through a very challenging period due to high staff turnover over the past 2-3 years. The Marking and Assessment Boycott (MAB) over assessment period 2022/23 had placed significant additional pressure onto the team. Staffing was beginning to stabilise, but the team as a whole was considered new with a number of staff in their roles for less than a year. It was noted that this turnover resulted on pressure on remaining staff both to undertake the work and to train new staff as they were appointed. Staff at all levels of the School spoke very highly about Teaching

Administrators, noting their commitment to supporting teaching and assessment while under pressure during a particularly challenging period. Academic staff welcomed their expertise and support.

2.7.3 Staff in teaching administration roles were noted to be excellent but continuity was challenging as staff on lower grades moved on to promoted posts elsewhere in the university. There were limited opportunities for promotion within the School, with one grade 6 and one grade 7 post situated in the teaching office. It was noted that the roll-out of the new student support model had resulted in further impact on turnover, as staff took up the opportunity to apply for promoted grade 6 Student Advisor positions. Senior managers reported that there was a perception that Physics and Astronomy was a small sSchool and they experienced challenges in achieving post approval for additional administrators. However, student numbers had significantly grown over recent years while teaching office numbers had not expanded with this growth which continued to be a resource restraint. This had resulted in some administrative tasks being assumed by academic staff, for example, page creation in LEARN. The review team **recommend** that the College support applications for post approval for Teaching Administrators and Student Advisors in light of increased student numbers in the School. Student Advisors are included within this recommendation in relation to higher level of support needs within the School in relation to the greater of proportion of neurodiverse students.

2.7.4 The panel met with both Teaching Assistants (TAs) and staff who support Teaching Assistants within the School. Most TAs were PGR students within the School, with some coming from outside Schools such as maths. At the start of semester, a survey was sent to all PGR students to seek interest in undertaking TA work including which topics and number of hours were sought. Teaching was assigned across the pool of potential TAs taking into consideration what, and how much, individual TAs wished to teach. The completed allocations were then sent to course organisers for review before being sent to TAs themselves. A typical workload was 60 hours within one semester, with a maximum of 90 hours possible. As noted earlier in the report there were some more senior PGR students appointed as ‘Super TAs’ who had 50% of their hours allocated to teaching. Each TA received a guaranteed hours contract.

2.7.5 Training for the TA role took place over two sessions. One session at the start of semester before teaching commenced and one later in the year. Training included an introduction to teaching, how programmes were organised within the School, a session on assessment and feedback and what was expected of TAs in terms of administration (time cards, key contacts etc). The session focused extensively on marking and providing feedback, including reviewing model assignments to assess and instruction on how to provide feedback that was constructive and enabled students to improve their performance. The School had moved towards online marking using Gradescope which enabled course organisers to view all marks and feedback undertaken by TAs which supported moderation. This feature also enabled course organisers to demonstrate good practice in marking and providing feedback. Using Gradescope featured in TA training. However, TAs from the most recent cohort reported that using Gradescope had not featured in their training and they had sought support from their Course Organiser and peers in using this tool. This was thought to be an anomaly for this year only.

2.7.6 Additional training took place within courses themselves, where course organisers were required to provide an induction to the course. This included an overview of the course, expectations for TA involvement and support for marking and providing feedback. It was noted that TA experience could vary across different courses. Some large courses had multiple TAs appointed to support teaching which required greater organisation and more formal induction to the course. Smaller courses may only have one or two TAs which resulted in more informal induction, although may result in more of a mentorship role with the course organiser. TAs met during the review noted that induction was very thorough in some courses, while in others this was less so. Opportunities for receiving feedback on TA performance were also mixed and TAs noted that a formal mid-course session with course organisers would be useful.

2.7.7 The review team saw evidence of effective training provided to TAs. However, TAs reported that training and induction was variable across cohorts and courses. The review team **recommend** that the School implement a mechanism to ensure consistent induction to courses and that training includes all key elements (for example, TAs reported training on Gradescope was not provided this academic year).

2.7.8 In discussions with student TAs, it was evident that they were not aware of opportunities for development of their teaching outside the School. The review team **recommend** that the School provide greater visibility and encouragement to engage with training opportunities for teaching such as the Edinburgh Award and HEA Fellowships. In discussions with the teaching team during the review, it was highlighted that there are limited places for these training schemes and the review team acknowledge these barriers.

2.7.9 The TAs clearly supported each other in their learning and development as they navigated the role. TAs described using a variety of methods to network and share practice, for example using Teams and ad hoc communication in offices. The review panel **suggest** that the School look at more formal mechanisms to make greater use of more experienced TAs and ‘super TAs’ in undertaking peer support and sharing experience with those newer to the role.

2.7.10 In discussions with the TAs it was clear to the review team that the ‘Super TAs’ had a significant teaching load, up to a maximum of 70 hours per month. This role was introduced to provide guaranteed additional support for teaching and the 35 hours per week were split 50-50 teaching and research. The review team **suggest** that the School monitor the teaching load of ‘Super TAs’ to ensure it does not impinge on research time which is also part of their contracts.

2.7.11 TAs reported that workload varied across courses, often related to the number of assessment hand-ins and resultant marking. It was also considered that being a TA for more senior courses required greater preparation time. It was noted that all PhD students had an annual review, and reflection on teaching would be included in discussions. Where supervisors considered a student was undertaking too much teaching and having an impact on the PhD progress, this would be reviewed and discussed by the thesis committee.

2.8 Learning environment (physical and virtual)

2.8.1 The School is based across two main sites, the James Clerk Maxwell Building (JCMB) and the Royal Observatory Edinburgh (ROE). The JCMB had a number of lecture theatres, classrooms and laboratories. The ROE also had laboratories but these are generally used in later years of the programmes and for project work.

2.8.2 The review team were given a tour of the JCMB teaching facilities during the first day of the review. The review team **commend** the recent refurbishments made to teaching and student social spaces, with staff evidently proud to show the team around the newly refurbished laboratories. Creative use of space was demonstrated, with previous single use spaces being redesigned to support multipurpose activities. Labs were well equipped and the review team were shown state of the art equipment provided to enable students to undertake up-to-date research projects.

2.8.3 The review team were impressed with the social spaces provided to students and **commend** the School for their commitment to provide spaces to support student wellbeing and community building. From year three upwards each student year group had been provided with a student common room. These spaces were equipped with a kitchen, social space and provision of space for individual study. During the review visit these spaces appeared to be well utilised and students spoke positively about access to these spaces.

2.8.4 It was clear to the review team during meetings with staff and students, that timetabling was negatively impacting the delivery of teaching activities within the School. Timetables were reported by staff and students to be busy and uneven. The School tried to ensure there was always a gap for lunch, but otherwise gaps for independent study were uneven across the week. Some days were fully scheduled with classes from 9am-6pm. This made it hard for students to form a routine. It was anticipated that the Curriculum Transformation project would bring both opportunities and challenges in relation to timetabling and it was hoped that part of this project would include a fresh university timetable.

2.8.5 Student numbers were restricted by estate capacity. It was noted that while student numbers had grown, space within the School had remained static. Staff reported that room usage was close to health and safety capacity limits. The School hoped for more integrated planning between Schools and the University in terms of targets for student numbers, coherent timetabling and consideration of estate capacity.

2.8.6 Access to spaces for practical sessions was most challenging, with access to computer labs a particular bottleneck. It was noted that the School had a high number of elective courses with the teaching team keen to offer a high degree of optionality. However, in reality this choice was limited due to space constraints. There was now also less capacity for the School to take students from other Schools on the big first year courses Physics 1a and 1b due to the 300 class size cut off as this was the maximum capacity of the large lecture spaces. Such large courses were then required to run labs each afternoon throughout the week due to capacity limits in laboratories. Staff and students cited examples of rooms being assigned that were not fit for purpose for particular teaching activities or where consecutive classes were assigned in rooms across different buildings. Particularly acute was access to suitable computer labs and teaching studios. The review team **recommend** that the timetabling unit prioritise spaces such as computer labs based within the School for local needs.

2.8.7 Staff in the School reported that the new Nucleus building on campus had helped availability of larger teaching spaces. The ability for seats to swivel in all directions

was noted to be a feature that expanded the use of spaces for small group activities within a larger class.

2.8.8 Use of virtual learning environment Piazza was discussed both within the reflective report and during the review. This software was targeted as maths-based subjects and was used as a discussion forum that enabled the use of equations. Examples of its use included shared revision sessions led by Teaching Assistants where a class would work through solutions to past exam papers. There was reported to be good engagement with this system, particularly on the run up to exams. The review team **commend** the use and engagement with this system by both staff and students.

3 Assurance and enhancement of provision

3.1 The School's approach to Quality Assurance and Enhancement was outlined within the reflective report. Discussions with School staff confirmed this approach was in operation and the statement provided by the College confirmed that in principle processes aligned with the University QAE Framework and were effective. The review team also had access to student feedback, and external examiner reports and responses. The team were satisfied that the School had an effective approach to reviewing provision, responding to student and external stakeholder feedback and had well established and robust quality assurance processes

Appendices

Appendix 1: Range of provision considered by the review

UG programmes
Astrophysics (BSc Hons)
Astrophysics (MPhys Hons)
Computational Physics (BSc Hons)
Computational Physics (MPhys Hons)
Mathematical Physics (BSc Hons)
Mathematical Physics (MPhys Hons)
Physics (BSc Hons)
Physics (MPhys Hons)
Physics with Meteorology (BSc Hons)
Physics with Meteorology (MPhys Hons)
Physics with Year Abroad (MPhys)
Theoretical Physics (BSc Hons)
Theoretical Physics (MPhys Hons)

PGT Programmes
Astrobiology and Planetary Science (MSc)
Mathematical Physics (MSc)
Particle and Nuclear Physics (MSc)
Theoretical Physics (MSc)

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
- College Academic Scrutiny report #
- External Examiner reports
- School Quality Reports
- SSLC minutes
- Statistical reports
- Student experience surveys (NSS and PTES)
- SWAY exchange and placement reports
- Graduate outcomes report
- Structure and programme diagrams

Appendix 4 Number of students

Undergraduate numbers:

Session Year	2023/4		2022/3		2021/2		2020/1		2019/20	
Programme Name	Entrants	Students	Entrants	Students	Entrants	Students	Entrants	Students	Entrants	Students
Astrophysics (BSc Hons)	23	5	29	26	35	35	22	18	15	17

Astrophysics (MPhys)	36	15	23	26	34	34	25	27	29	31
Computational Physics (BSc Hons)	8	2	1	1	5	4	4	5	5	8
Computational Physics (MPhys)	4	2	5	5	2	2	3	2	1	4
Mathematical Physics (BSc Hons)	7	3	4	5	13	14	5	11	5	4
Mathematical Physics (MPhys)	9	7	10	13	12	13	11	14	5	10
Physics (BSc Hons)	72	29	73	69	76	77	43	38	49	43
Physics (MPhys)	37	19	44	45	43	42	41	43	57	48
Physics with Meteorology (BSc Hons)	1	1	1	1	1	1	0		0	
Physics with Meteorology (MPhys)	0		2	2	1	1	0		0	
Physics with Year Abroad (MPhys)	14	5	15	13	12	12	11	13	11	11
Theoretical Physics (BSc Hons)	12	6	9	10	16	16	13	10	8	8
Theoretical Physics (MPhys)	18	12	12	12	20	19	12	12	15	14

Postgraduate numbers:

Programme Name	2023/4		2022/3		2021/2		2020/1		2019/20	
	Entrants	Students	Entrants	Students	Entrants	Students	Entrants	Students	Entrants	Students
Astrobiology and Planetary Sciences MSc	7	7								
Mathematical Physics MSc	14	13	12	10	7	7	11	11	8	8
Particle and Nuclear Physics (MSc) - 1 Year (Full-time)	18	18	13	13	9	9	9	10	12	12
Theoretical Physics MSc	26	27	21	23	19	19	33	32	16	16