

## 1. Provider context

The University of Cambridge welcomes the Teaching Excellence Framework for the opportunity to reflect on and evidence the delivery of outstanding educational experiences and outcomes. This submission has been endorsed by the General Board of the University, and approved and authorised by the University's Council.

Upon receiving confirmation of the TEF process and dates for 2023, the University established a Steering Committee and a Working Group, both of which included representatives from Cambridge Students' Union (SU). Data and draft submissions were shared with the student representatives at all stages of the exercise. In addition, a post for a student intern to support the writing of the student submission was funded by the University.

### 1.1 University Mission and its Relationship to Undergraduate Education

The [University's mission](#) is to contribute to society through the pursuit of education, learning and research at the highest international levels of excellence. In continuously developing the undergraduate educational experience the University is therefore committed to:

1. Teaching that is based on its global excellence in research, and its positive societal impact, as recognised in the REF and international league tables. The University of Cambridge is ranked second in the UK and third globally in the [Times Higher Education's Ranking Table](#) for 2023, which assesses roughly 1,800 HEIs on teaching/the learning environment (30% of the final score), research, research influence, knowledge transfer and international outlook. The University's standing in international league tables can also be attributed to its world-class facilities and the way these are used to enhance the University's learning and teaching provision. Students are consistently and frequently engaged with developments from the forefront of research and scholarship, and have numerous opportunities to engage in research themselves both in the classroom and beyond (see 2.7). In this way, the University's commitment to freedom of enquiry, thought and expression permeates the culture of learning, which its students experience.
2. Freedom from discrimination as evidenced in the professional best practice in inclusive curricula and learning delivered by our Cambridge Centre for Teaching and Learning (CCTL);
3. An education which enhances the skills and capabilities of students to graduate successfully into further research, additional professional formation, or into direct employment as evidenced in the excellent Longitudinal Educational Outcomes (LEO) statistics (see 3.4.3).
4. Opening the undergraduate door to the University of Cambridge for everyone who has the exceptional potential to succeed and thrive in this learning environment whatever their background. As evidence, the University spends £1.9M p.a. on outreach programmes using a variety of modes across the UK, and has implemented a unique Foundation Year (see 2.2.3) in 2022-2023. In recent years we have regularly exceeded our Access and Participation Plan (APP) targets for admitting students from under-represented backgrounds. We endeavour to support all students who are admitted and can demonstrate exceptionally high continuation and completion rates (see 3.1).
5. A personalised education for students based on weekly supervisions in the Colleges that engages, challenges and stretches them academically, and offers tailored individual feedback on a continuous basis so that they fulfil their academic potential.

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## 1.2 Size and shape of provision

### 1.2.1 University Governance as it applies to Undergraduate Education

The University is a confederation of Departments, Faculties and other academic institutions, attached to one of six Schools. The Collegiate University includes 31 Colleges, each of which is a separate legal charity. Consequently, the University has a federal governance structure, and is participatory and consensual in culture as befits a self-governing academic community. The [Regent House](#) is the governing body and principal electoral constituency of the University. The [University Council](#) and [General Board of the Faculties](#), the [Councils of the Schools](#) and the [Faculty Boards](#) are its principal academic decision-making bodies. The University takes an approach to the management of the student learning experience that acknowledges the high level of devolved responsibility given to academic departments and colleges, while ensuring the participation of students and their representatives in decision-making.

### 1.2.2 Undergraduate education

The University is committed through its mission to maintaining an extensive range of courses in most major academic disciplines. Its undergraduate qualifications fall into two categories: the degree courses ([Triposes](#)) and [Certificates and Diplomas](#). A Tripos is a full-time, undergraduate bachelor's degree. Students studying a Tripos are required to be a member of a College ([matriculation](#)) and be resident at the University for at least nine terms. As of 2021-22, there are [32 Triposes](#), covering more than 65 subject areas and most are three-year degrees. Engineering, Mathematics and all science subjects offer an optional fourth year, which leads to an integrated master's award, e.g. [M. Eng](#), [M. Sci](#) or [M. Math](#) Degree. There are 49 additional undergraduate [Certificates and Diploma](#) courses (see 2.2.2). These qualifications are offered mainly on a part-time basis and enable older students, parents, carers, and professionals to access a flexible life- and career-enhancing Cambridge education, thus facilitating social mobility and extending learning to wider groups. Part-time courses at Levels four and five are offered by the University's [Institute of Continuing Education](#), the first ever university-led continuing education department in the world, celebrating its 150th anniversary in 2023. In 2021-22 the undergraduate population consisted of 13,091 full-time and 749 part-time students.

### 1.2.3 Location of teaching

[The University's](#) teaching takes place in Colleges, Faculties and Departments, located in the centre of the city, at the Clinical School on the Biomedical Campus site, at Madingley Hall, and at the West Cambridge site. Shared teaching spaces such as the [WestHub](#) (opened in 2022) at West Cambridge are designed to facilitate interdisciplinary study and informal learning. The Estates Department has a team of some 350 staff focused on the updating, refurbishment and planning of new facilities for research, teaching and learning with an annual operating budget of c. £100m. Student representatives, and student feedback, have an important role in the identification of estates and infrastructure priorities for teaching and learning.

### 1.2.4 Colleges

Of the 31 Colleges, 29 admit undergraduate students. The Colleges are responsible for the selection and admission of students to bachelor's degrees, and for the structured oversight of their academic learning and personal/professional development led by [Directors of Studies](#) (see 2.9.3) for each Tripos in each College. Colleges provide undergraduate teaching on an individual or small-group basis through supervisions (see 2.2.4). They offer a stimulating and multi-disciplinary, educational environment for all students, with many opportunities for intellectual exchange

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between students and academics in a way that promotes interdisciplinary exchange and networking. Through the Tutorial system (see 2.5.4), the Colleges also provide extensive pastoral support. The relatively small, intimate size of the Colleges ensures that a high level of personalised academic and wellbeing support is available to students within a peer learning community studying alongside each other. Colleges engage with their student body in a variety of ways, including through the College students' union(s), and have committees responsible to their [Governing Body](#) or Council for all matters related to undergraduate education.

### 1.2.5 Admission requirements

[Entrance to Cambridge](#) for undergraduate degree programmes is highly competitive and the students admitted are academically outstanding. For 2021 entry, the University received 22,717 applications for 3,654 planned places. The typical offer for UK students applying to STEM subjects and Economics is A\*A\*A at A Level and A\*AA for all other undergraduate Triposes. The quality of matriculated undergraduate entrants is high; in 2021, 3,660 applicants accepted an offer to study at the University, with [99% of UK-domiciled accepted applicants](#) achieving the equivalent of A\*AA or better, counting only their best three A Levels (excluding General Studies and Critical Thinking). Many students score even higher than this: 74.1% of accepted UK-domiciled applicants who achieved at least three A Levels in the 2021 cycle achieved A\*A\*A\* or better at A Level. The University admits a growing proportion of students from state-sector schools and colleges, [increasing by 6.6% to 70% in the three years to 2020-21](#) and exceeding the University's target agreed with the Office for Students. Students must meet English language requirements of 7.5 [IELTS or equivalent](#) if their first language is not English.

The University's [Institute of Continuing Education](#) (ICE) is by contrast and deliberately 'open access' in its admissions at Level Four. ICE also uses recognition of prior learning processes so part-time students can enter some courses at Level Five or Six directly.

### 1.2.6 Studying at Cambridge

The University has three intense eight-week academic terms a year. Some courses, e.g., Clinical Medicine, Veterinary Medicine, begin earlier and finish later than published term dates, in order to complete accreditation requirements. Courses are designed to take account of leading and emerging research in that subject area. They are also designed to ensure students develop independent study skills, self-management and time management skills, and the capacity to learn throughout life, found by [Advance HE's 2021 UK Engagement Survey](#) to be the most significant transferable skill which students develop while studying at university. Students attend lectures, seminars, language classes and lab sessions delivered by University Departments. Independent study takes place within the Colleges, where students meet with their module supervisors weekly. Supervisions typically require completion of an essay, problem sheet, a critical review of a published paper, a case study or similar academic task, to be completed in advance and discussed in the supervision itself, and on which students receive detailed feedback (see 2.2.4 and 2.9.2).

The University has various methods to promote the consistency of student experience, for instance, setting policy expectations and 'supervision norms' (see 2.2.5) for the Colleges to follow and requiring academic departments to review the content they expect to be covered. These processes establish consistent expectations for students' educational experience across the University. Before students apply, they are informed that [workload expectations](#) are high. On arrival, they are offered a very considerable range of academic and time-management support (described at sections 2.2.1, 2.2.4-5, 2.2.9, 2.5.4, and 2.9.2-4). The University is currently initiating a review of student workload in the context of the disruptions of the pandemic, and the associated

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learning loss for incoming cohorts of students. This includes consideration of proposals from the Cambridge SU to introduce a mid-term reading week.

## **2. Student experience**

The University and Colleges provide students with carefully planned support to succeed in their studies, which is tailored and highly effective (SE1) as evidenced by the exceptionally high continuation and completion rates (see 3.1). The University aims to deliver a rich and varied range of learning experiences including classroom, lab, fieldwork opportunities, and year abroad study to reflect the nature of differing academic disciplines, their methodologies and skills, and the generation of new knowledge through research. This is interrogated regularly through the University's course review processes (see 2.6.1-2 below).

### **2.1 Student experience data**

Due to a longstanding and organised boycott of the National Student Survey (NSS) against the perceived marketisation of higher education by the Cambridge SU, the University's NSS response rates have not met publication thresholds for several years and are absent from the TEF process. The [boycott was suspended](#) in 2022, but too late to have an extensive positive impact on results. Instead, this submission evidences how an excellent educational experience is delivered by referring to Student Barometer survey results from 2019 and 2020 (38% and 40% response rates respectively) which cover all but final year undergraduate students, and survey data of all undergraduate students studying at the Institute of Continuing Education (ICE).

### **2.2 Teaching, feedback and assessment**

The University has embedded teaching, feedback and assessment practices that are seen by students to be highly effective and tailored to supporting their learning, progression, and attainment. In the Student Barometer survey 2019, the University had an overall undergraduate student satisfaction rate of 93.1%. Satisfaction rates for 45 of 55 reportable courses were above 90%. Further, 90.5% of undergraduate students were satisfied with support services, and 89.4% reported satisfaction with their academic experience. Undergraduate students at ICE had an overall satisfaction rate of between 90% and 92%, between 2019-22 (response rates varied from 54% to 67% per year).

#### **2.2.1 Undergraduate teaching for bachelor's students**

As explained above, undergraduate teaching for bachelor's degrees is provided through a mixture of lectures, seminars and practicals arranged by the relevant Department, and by supervisions which are provided by each student's College. Courses are rigorous and intellectually challenging (see 2.3 section on external examiner reports) and the small-group teaching offered by the Colleges through supervisions allows education to be personalised to individual students' interests reinforced by regular formative feedback (see 2.2.4 and 2.9.2). In the 2019 Barometer survey, students rated their satisfaction with the expertise of lecturers/supervisors as 98%, and the size of classes at 95%. In 2020, Barometer survey results showed 89% of respondents were satisfied with their learning experience, and the overall satisfaction rate was 93%. The COVID-19 pandemic accelerated the University's adoption of technology-enabled learning, manifesting in more effective use of virtual learning environments including scenarios, cloud-based software, the distribution of recorded lectures and the digitisation of primary source materials which students required for their dissertations and research projects. The University's [approach to recording lectures](#) allows Faculties and Departments to make discipline-specific decisions on what teaching they will record

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and how it will be distributed. Where Faculties or individuals prefer not to record their teaching, for the purpose of promoting frank and free debate in the classroom, and for reasons relating to the need to seek consent from students for recordings, alternative provisions are made for disabled students (see 2.5.5) who require reasonable adjustments. The highly individualised teaching and support provided through the College supervision, and [Director of Studies](#) systems (see 2.2.4, 2.5.4, 2.9.2 and 2.9.3), combined with excellent pastoral support, underpin the University's exceptionally high retention rate, as indicated by the 98.9% continuation rates (see 3.1.1) in the TEF metrics (benchmark 96.9%).

### **2.2.2 Undergraduate certificates and diplomas**

The University's broad portfolio of undergraduate certificates and diplomas, studied on a part-time basis, are primarily delivered by the Institute of Continuing Education (ICE). The courses are among the most affordable offered by any UK HEI per credit, with financial barriers to entry further reduced by a comprehensive bursary offer for socioeconomically disadvantaged students and those studying at HE level for the first time. Enrolments have grown strongly in both liberal and vocational fields in the 2021-22 cycle. ICE follows andragogical principles of tutor-led peer learning with a learner-centred approach that tailors virtual classroom teaching, seminars, workshops and group dialogue depending on the group's needs. Tutors drawn from the University and expert practitioners work to build self-efficacy and promote learning drawing upon students' personal and professional experiences. Use of the virtual learning environment maintains learning and cohort identity between taught sessions. Study skills and assessment preparation support helps students demonstrate their learning. ICE student survey results in 2021-22 confirm that 94% found their course intellectually stimulating, 95% agreed that their teachers were enthusiastic about the subject, and 94% agreed that staff were good at explaining things. These figures were the same or within 3% of results seen in surveys in the previous two academic years.

### **2.2.3 Foundation Year**

As a response to the perceived need to widen access further and include more diverse student groups, the University has over the last two years, planned and introduced a full-time, one-year, residential Foundation Year at Level Four in Arts, Humanities and Social Sciences. This is a free and fully funded programme aimed at those with demonstrable academic potential but who have experienced considerable educational disadvantage and disruption. An innovative approach has been taken to the design of this programme which is inter-disciplinary and is structured to require students to work respectively with: textual sources; material sources; languages; and data. Students are admitted as full members of a College, and receive College-based pastoral support.

### **2.2.4 Role of supervisions**

Supervisions are the core of the educational provision of the Cambridge Colleges, as a medium through which full-time undergraduate degree students learn to develop as independent scholars, learn with and from others, learn to present arguments, clarify material taught in lectures, put material taught in lectures in a wider context, prepare for exams, handle problems, question their own assumptions, organise their learning, and meet deadlines. In supervisions, a small number of students (typically two or three) meet with a subject-specialist academic for in-depth discussions of a particular topic based on work completed in advance. Supervisions support a student-focussed approach to teaching (see 2.9.1), and research attests to the substantive benefit to high-quality learning associated with characteristic elements of supervisions, including small class numbers and a significant volume of student effort in independent study to prepare work which engages substantively with the curriculum. Supervision is a feedback-rich process in which students receive

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detailed, personalised formative feedback from supervisors. High-quality and high-frequency formative feedback, with opportunities for dialogue with teachers and with peers, is associated with high-quality learning and improved educational outcomes ([Carless and Boud, 2018](#)).

### **2.2.5 Scale of supervisions**

Bachelor students have hour-long supervisions each week, with some variation in number depending on Tripos and year of study. The volume of supervisions for each course is agreed between representatives of Colleges, Faculties and Departments as set out in 'supervision norms'; this helps to ensure consistency in the amount of teaching students receive across the Colleges. Students on the Natural Sciences Tripos, for instance, may expect four supervisions per week in term time in their first year. The number for a typical Arts and Humanities student is usually lower, around two per week, unless the student is studying an ancient or modern foreign language. Students are expected to attend all scheduled supervisions, and attendance is monitored to ensure student academic engagement. Supervisors are expected to contact Directors of Studies promptly should a problem arise with a student's engagement or progress. Termly supervision reports record attendance, and provide feedback to students on their understanding of the topics taught. Students too, can provide feedback on their experience of supervisions to their Director of Studies at the end of each term.

### **2.2.6 Supervision training**

The majority of supervisions are given by University or College academics or postdoctoral researchers with approximately 65% given by University or College academics or postdoctoral researchers, 20% by postgraduate research students, and 15% by other subject specialists (averages drawn from data covering 2016-17 to 2020-21). Training for new supervisors is provided by CCTL; Faculties and Departments may provide their own supplementary training for new supervisors. All new supervisors are required to take part in training which provides a clear understanding of how teaching and learning is organised at the University, addresses the pedagogical principles underlying supervisions, creates inclusive learning environments and uses formative feedback effectively. The CCTL also offers workshops which expand on initial supervisor training. Data from supervision reports indicate that there are nearly 250,000 supervisions, delivered by 4,800 supervisors across the 24 weeks of an academic year.

### **2.2.7 Methods of assessment: supervisions, dissertation and exams**

All undergraduate courses include summative assessment at the end of each academic year, which students must pass in order to progress to the next year of study. In many cases this takes the form of written examinations, although summative assessments may also include portfolios of coursework, presentations, practicals, and project reports. Assessment methods are determined by Faculty Boards to best suit the discipline requirements of the particular academic subject, thoroughly test the knowledge and skills required, and ensure that students have met the course learning outcomes. Most courses offer a substantial dissertation or research project in the final year, which usually makes a sizable contribution to the final degree class. This enables students to undertake significant research (see 2.7.3). For sub-degree qualifications, students have a high proportion of continually assessed coursework, some with written exams. As explained above, formative assessment is a continual and fundamental part of the supervision process (see 2.2.4).

### **2.2.8 Diversification of assessment design**

During the COVID-19 pandemic, the University made significant strides towards transforming assessment from a high proportion of handwritten, in-person exams to typed, online or remote

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submission or coursework. Annual [Frameworks for Assessment](#) outline the strategic rationale for a shift to a more sustainably inclusive approach to summative assessment modes and methods, allowing Faculties and Departments to more easily adjust assessment for educational rather than emergency reasons. The University intends to extend digitised assessment methods as part of a blended learning experience while mitigating the risk of academic misconduct through careful design of assessments, and other means to ensure academic integrity. The University also recognises that assessment design and practices, including formative assessment and feedback, can contribute to 'awarding gaps' (see 2.8.1). An Awarding Gap Consultation Team assists Faculties and Departments to develop projects to address issues relating to awarding gaps in their disciplines. For instance, one project has focused on differential outcomes of students with declared learning disabilities in the School of Clinical Medicine. The diversification of assessment strand of work on awarding gaps includes an annual Diversifying Assessment Forum to encourage sharing of good practices, as well as the [Mind the Gap Toolkit](#) guidance and course team self-evaluation resources on inclusive assessment. This desire for diversification draws from a University-wide student survey (Cambridge SU and CCTL 2021) and a follow-on project seeking related staff perspectives ([Participatory Action Research Project](#)).

### **2.2.9 Individualised mitigation**

The University, where appropriate, provides tailored support to its students, including students with extenuating personal circumstances. While we endeavour to apply the principles of inclusive design to education, where students need adjustments and mitigation, there are procedures to design student support arrangements, alternative assessments and extensions, in order to tailor courses to students' needs and enable students to succeed (see 2.5.5 on support for disabled students). Students apply for mitigation via the [Examination Access and Mitigation Committee](#) (EAMC). The number of students applying via EAMC is increasing, in line with national trends ([UCAS, 2021](#); see also paragraph 2.5.1). Applications for alternative modes of assessment have more than tripled, and applications for exam adjustments have also increased by 51% in the last five years ([EAMC Annual Report 2020-21](#)). As a consequence, the University has contracted with SUMS Consulting to review the mitigation arrangements, consulting widely with Departments, Colleges and students, before presenting recommendations for implementation. This is a further example of the University's continuous improvement ethos as applied to the learning experience.

### **2.3 External examiners' reports analysis**

The University has robust evidence of its outstanding and effective assessment practice: all courses must appoint and engage with external examiners annually to seek feedback on the quality and standards of their awards and assessment processes. The University has conducted text mining of all external examiner reports from 2018-19 to 2021-22, covering 839 external examiner reports across 42 Faculties and Departments. Sentiment analysis reveals that 99.6% of all reports were positive or neutral for the chosen search terms. Against a scale where scores of 0.1 and above were increasingly positive, and -0.1 were increasingly negative (and those between neutral), the average positive score for all records was 0.3 reaching a maximum of 0.91; average negative records scored only -0.16 and typically referred to COVID-19 circumstances. This analysis reflects a highly positive opinion expressed by external examiners regarding the quality of the University's teaching and learning provision. As an illustrative example, one external examiner wrote:

*“Throughout my three years as external examiner, I have always been impressed not only by the teaching, assessment, and curriculum, but also by the care with which the department attends to its students. Indeed, the students are to be envied the rich*

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*intellectual experience the course offers them and the friendly and supportive environment of the department.”*

Topic modelling analysis looked at recurrent semantic structures in the reports, and of 1,440 positive records, it found semantic recurrence of themes related to: i) Marks/Marking; ii) Outcomes and iii) Examinations. The keyword analysis showed that all three of these themes were most frequently associated with such positive flags as excellent, outstanding, quality, satisfied, appropriate, standard, effective, relevant, evidence, important and fair. Overall, all natural language processing techniques when applied to the external examiners’ reports give clear indication that independent assessors observe that the University offers high quality education provision.

## 2.4 Attainment

Over the past decade the University experienced only minor increases in the proportion of first class and upper second class degrees awarded, as shown in the graph below. Like much of the sector, the University offered some students a ‘safety net’ during the COVID-19 pandemic as part of a package of mitigation measures, and which is reflected in our data. The trend for an increase in the proportion of ‘good degrees’ awarded during the pandemic has reversed in our latest data and attests to a robust management of academic standards while providing students with the highest level of support.

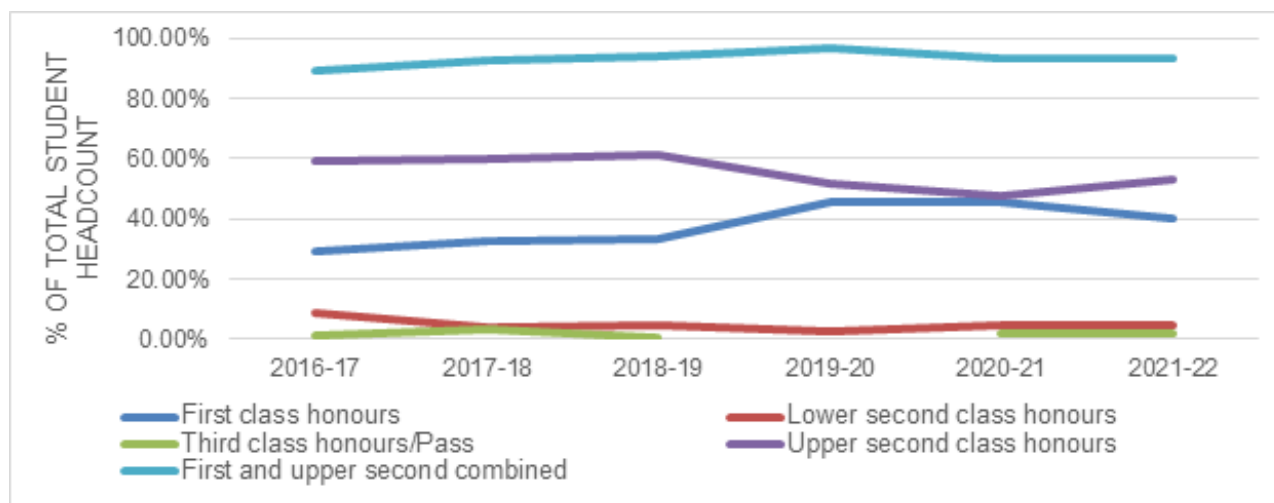


Figure 1. Final year result trends 2016- 2022

## 2.5 Student support

### 2.5.1 Support for student mental health and wellbeing

Supporting student [mental health and wellbeing](#) is a strategic priority for the University in light of the sharp 450% national increase in students declaring mental health conditions in the last decade ([UCAS, 2021](#)). Poor mental health has been shown repeatedly to have a negative impact on student experience and outcomes and is therefore deeply relevant to this submission ([Sheldon, et al., 2021](#)). Personalised pastoral support provided through the Collegiate system is highly effective in identifying and supporting students experiencing difficulties during their studies. As well as welfare teams within all the Colleges, the University has a dedicated Student Support Department with four core teams: University Counselling Service; Mental Health Advice Service; Harassment and Violence Support Service; Accessibility and Disability Resource Centre (ADRC). In addition, the Student Advice Service, run by the Cambridge SU, offers free, confidential and independent support to students.



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### **2.5.2 Strategic review of mental health**

Following a strategic review of mental health provision in 2021, the Collegiate University commenced a well-resourced three-year change plan, ([Student Mental Health and Wellbeing Plan](#)) to enhance its institutional approach to the prevention of, early intervention in, and support for student mental health and wellbeing challenges. Capacity has been increased across central services and bold reforms to the delivery model for counselling implemented this academic year are already significantly reducing the time students wait for support, replacing the previous [four to five week](#) waiting list with an immediate appointment offer, 50% of which are within three working days and 99% of which are within 10 working days of referral. The introduction of a central Student Wellbeing team aimed at proactive prevention and early intervention is in progress and is planned for delivery in October 2023. This new team will complement existing and planned student wellbeing posts across the Colleges. [Qualitative research findings](#) from student co-researchers has foregrounded the value of the collegiate educational network for disabled students, the supervisor-student relationship, peer networks and inclusive formative and summative assessment practices and processes. Work continues to develop a more consistent process to triage and assess student support needs, together with a framework of support, ranging from community-wide prevention activities, to specialist intervention for students with complex and severe mental health difficulties, which ensures students are directed to the right level of support at the right time. The University works collaboratively with the NHS to ensure that public health resources are available to students, and that the University's supplementary services complement these.

### **2.5.3 Intermission**

In exceptional cases, students who need to take time out from their studies for medical or other grave cause may apply via their College to [intermit](#) for a term, two terms or an academic or calendar year. In the above-mentioned Student Mental Health and Well-being Plan, the University has committed to review its intermission arrangements again through the SUMS Consultancy so that consideration of mental health support is included.

### **2.5.4 College personal Tutor support**

In addition to Directors of Studies who provide academic support, each matriculated student has a personal [Tutor](#) in their College who is responsible for pastoral support. Tutors can also represent their students in any dealings with the University and external authorities. The Tutorial system gives students a point of contact in their College, independent from those involved in their teaching and ideally external to their discipline, with whom they can discuss matters related to their welfare and broader aspects of their personal and academic development. Like Directors of Studies, Tutors liaise with Faculties, Departments, and other student support services to ensure students are appropriately supported throughout their studies. The consistent, personalised support offered by Directors of Studies and Tutors is highly effective at helping students engage and succeed in their studies (see excellent continuation and completion data, 3.1.1 and 3.1.2).

### **2.5.5 Support for disabled students**

Across the University 21.3% of undergraduate students reported a disability in 2021-22 (2,762 out of 12,940). The [Accessibility and Disability Resource Centre](#) (ADRC) offers a confidential and accessible student-centred service, committed to supporting disabled students across all Colleges and Faculties to achieve their academic potential. The ADRC aims to remove barriers, increase access and attainment, and secure equitable learning opportunities for students, while providing advice and training to staff, developing related policies and processes and guidance, and

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promoting inclusive teaching and learning practices. Working with each student, the ADRC details the adjustments that students need and liaises with the relevant Faculty. In 2021-22, over 17,000 hours of individual student support were delivered by a team of 120 specialist support workers. The ADRC provides a considerable range of resources including study support skills, funding and specialist facilities, access to human medical and non-medical support, mentoring, and signposting to external services; it uses an annual student survey to engage with students, seek feedback and improve its services. The satisfaction rate for non-medical help is currently 99.5%.

### **2.5.6 Supporting Black students**

The University has acknowledged in its [Access and Participation Plans](#) that it wishes to eliminate unexplained awarding gaps, and since 2020, it has used [Participatory Action Research](#) to investigate students' perceptions of issues that impact their academic experiences at the University and thereby prompt institutional reflection. The data revealed a particular attainment gap for Black students. Consequently, the University, working with Black students, developed the [Black Advisory Hub](#) to help build a diverse and inclusive community for all students and staff members at the University of Cambridge as part of institutional action to improve Black students' outcomes. Students and staff collaborated in 2020-21 and 2021-22 to develop a first year induction programme to help incoming Black students to network and to learn of Cambridge resources and support services, before arrival and during their first months (see 2.8.2).

## **2.6 Approach to ensuring excellent course content**

The University's approach to reviewing and improving course content and delivery methods seeks to inspire our students to engage in and commit to their learning, and stretches students to develop research-based knowledge and skills to their fullest potential (SE2).

### **2.6.1 New course process**

New courses are approved via a multi-stage process to ensure that all key stakeholders including external experts, professional practitioners, and students have extensive opportunities to engage with course proposals. Faculties and Departments work closely with the Education Quality and Policy Office to ensure that proposals follow good practice, take account of University strategy and initiatives and maintain disciplinary excellence at the highest level, mapped against the requirements of professional bodies where relevant. An academic case is then put to the University's Academic Standards and Enhancement Committee (ASEC) which has representatives of the University, Colleges and Cambridge SU, for rigorous discussion, scrutiny and approval. New courses are designed to address the University mission and to embrace emerging and leading research. For example, in 2021 the University completed the planning and approval of a new undergraduate degree in Design which in its interdisciplinarity builds on the University's commitment to Carbon Zero and is structured thematically around UN Sustainable Development Goals, aimed at developing the next generation of architecture industry leaders.

### **2.6.2 Updating, maintaining and enhancing existing courses**

Course development is led by academic experts in Faculties and Departments and ICE. The approval route for changes to courses is set out in a [Course Modification Framework](#), with the majority of changes considered by ASEC with a similar but proportionate route to that for new course approval. The University's course approval form and course modification forms explicitly require Faculties and Departments to detail their consultation and engagement with students and external experts (including, but not limited to external examiners), and provide evidence of this engagement as part of the paperwork for the academic case approval. In addition, course change

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processes ask specifically about the effects of any proposed changes on students who are intermitting (see 2.5.3). An example of this approach to revision is the new undergraduate History Tripos implemented from 2022. This provides students with a chance to reflect on critical issues from industrialisation and economic change to the environment, globalisation, capitalism and democracy, by considering the past through a variety of contemporary approaches and by learning to weigh up a range of evidence and sources through an understanding of the discipline and its cross-disciplinary affiliations.

## 2.7 Relationship between research and teaching

The University uses research in relevant disciplines to contribute to an outstanding academic experience for its students (SE3). The University's taught programmes benefit considerably from this research-rich context through the high proportion of research-active and world-leading academic staff designing education programmes and teaching in both Faculties/Departments and in College supervisions. Students have access to excellent research resources and facilities, including practical and digital resources, embedded within our internationally leading research environment as recognised in the REF 2021 outcomes. For example:

**School of Clinical Medicine practical skills laboratory:** The Clinical School has three fully equipped Clinical Skills Labs accessible to students to practise their practical skills. As well as the core skills required as part of their clinical curriculum, students receive innovative teaching on additional skills. For example, students are taught about the different cardiac arrhythmias and get a chance to learn about the defibrillator. Hand-held ultrasound devices are used innovatively to teach vascular access in the intravenous cannulation practical skills stations. Another practical skill taught in the early clinical years, outside of the core curriculum, is lumbar puncture, and this encompasses aseptic technique, and complements existing fundoscopy teaching. Finally, simulation teaching in managing clinical scenarios, and combining this management with practical and communication skills, teaches students about non-technical skills and human factors.

**Archaeology collections and laboratories:** Students can do both practicals and their own research on artefacts from the collections of the Museum of Archaeology and Anthropology. The Duckworth Laboratory collection houses archaeological and anatomical human remains, non-human primate remains, fossil casts, blood, brain and hair collections, anatomical models and instruments, and an archive that are widely used for teaching and research. The Cambridge Archaeological Unit gives students access to fieldwork training and practicals. The Department has several impressive laboratories including the Pitt-Rivers for Archaeological Science, the Grahame Clark Laboratory for Zooarchaeology, and the Dorothy Garrod Laboratory for Isotopic Analysis.

### 2.7.1 Interdisciplinary courses

Collaborative research between particular fields can contribute towards greater opportunities for interdisciplinarity in teaching courses for students. One example can be seen in the Theology, Religion and Philosophy of Religion Tripos. As part of a strategy to expand interdisciplinarity in learning, the Faculty developed the opportunity for students to take papers (modules) from the Department of Social Anthropology. This joint provision has been introduced as a five-year trial, which began in 2020-21. The programme allows the structured core teaching in Social Anthropology to be combined with the choices offered within the Theology, Religion and Philosophy of Religion Tripos across its subject areas, thereby enhancing the ability of students of religion across the two Schools to integrate anthropological insights with theological ones.

Tripos courses are designed to be broad, allowing students to choose options as their interests develop. For example, in the [Natural Sciences Tripos](#), students select three subjects across the biological and physical sciences, and in addition study mathematics. The [Engineering](#)

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[course](#) provides a broad introduction across specialisms in the first two years, with students increasingly specialising as they progress through the programme. Final year projects where students get to work with academics are also an integral part of Engineering: students spend approximately half of the year working on their project, the vast majority of which are lab-based.

Undergraduate courses also have a widespread practice of sharing modules: for example, there are currently three interdisciplinary modules in the fourth year Natural Science Tripos. Titles are (1) Atmospheric Chemistry and Global Change; (2) Climate Change and the Carbon Cycle: an earth history perspective; (3) Materials, electronics and renewable energy.

### **2.7.2 Next generation academics and researchers**

The University uses its research means and excellence to develop the new generation of academics and researchers by encouraging students to consider postgraduate courses, with 15.7% of graduates in 2019-20 choosing full time further study, compared to a UK average of 8.4% (HESA Graduate Outcomes survey, see 3.4.5). As explained below, this is reflected in the many and varied independent research opportunities integrated into undergraduate programmes, such as dissertations and extended essays. The University works to improve undergraduate students' opportunities for progression to postgraduate study, by providing research internship and placement opportunities. Examples include the Summer Research Programme at [King's College](#), the Research Experience Placement funded through the Cambridge NERC Doctoral Training partnership, and internships with the EPSRC DTP.

### **2.7.3 High quality research projects**

The University's research profile makes it possible for Faculties and Departments to offer substantial and high-quality research projects as part of an undergraduate degree. In the sciences, final-year students undertake active research projects in which they collaborate with academics, often resulting in co-authored publications. See, for example, [Milbank et al., \(2018\)](#). Many Faculties and Departments are also able to offer extra-curricular opportunities, for instance through summer research placements. The Department of Engineering manages the [Undergraduate Research Opportunity Programme](#), which offers funded summer placements in a range of Departments with around 100-125 places filled each year; over half are hosted in the Department of Engineering. Similarly, the Faculty of Mathematics coordinates over 100 placements a year with around 20% of those in industry. Recent placements have seen students working on projects such as researching a prototype blood circulation system for organ transplantation, visualisations of magma flow in the Earth's deep interior, optical manipulation of nanoparticles in photonic crystal fibre, developing a robotic arm to assist with cooking, and acoustic properties of oscillating hydrogel membranes.

### **2.7.4 Professional accreditation**

The University offers several undergraduate degrees that benefit from professional accreditation, and where the external accreditation further validates the value and quality of the degrees. These include accreditation from the General Medical Council, the Royal College of Veterinary Surgeons, the Royal Institute for British Architects, several Engineering Institutes and Councils, the British Psychological Society, the Institute of Physics, the Royal Society for Chemistry, the Geological Society, the Royal Institution of Chartered Surveyors, and the Solicitors Regulation Authority. All applications for accreditation or re-accreditation in the reporting period have been approved.

## **2.8 Research-informed professional development and enhancement**

The University provides outstanding support for staff professional development, and excellent academic practice is embedded across the University (SE4).

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### **2.8.1 Cambridge Centre for Teaching and Learning**

The [Cambridge Centre for Teaching and Learning](#) (CCTL) encourages teaching innovation and rewards excellence, by providing training and development programmes, hosting conferences and network events, presenting awards for excellent teaching and encouraging research- and evidence-informed enhancement of students' learning. Between 2018 and 2022, the University doubled CCTL's staffing to 18. During this period, CCTL has embedded a focus on inclusive approaches to addressing awarding gaps into its delivery. This has included annual networking events for education leaders and the annual Cambridge Teaching Forum, introductory training workshops for new small-group teachers (reaching 799 new small-group teachers in 2021-22), and structured teaching development programmes. All CCTL's programmes are rigorous and informed by recent pedagogical research. CCTL's established [Postgraduate Certificate in Teaching & Learning in Higher Education](#) (PGCTLHE) provides an opportunity for teaching staff to engage with educational research to inform their ongoing scholarly development. The University intends to more than double the number of staff on professionally accredited provision this year from 95 to 210 in 2023-24. Those who completed the PGCTLHE in 2022 reported intending to adapt their teaching practices in response to what they had learned on the course, with two-thirds indicating that they had already done so.

### **2.8.2 Student-led qualitative research**

CCTL embeds student engagement into its work, with annual cycles of student-led qualitative research into students' perceptions of issues affecting attainment and continuation, with more than 100 students undertaking more than 20 research projects in three years. Student researchers and their findings led to the establishment of a Black Advisory Hub in 2021 (see 2.5.6). Almost 75% of all Black students commencing study in 2022-23 registered to take part in the Black Advisory Hub's induction programme.

### **2.8.3 Recognition and reward for excellence in teaching**

The University balances recognition of education and research in its promotion pathways for Teaching and Research academic staff to reward excellent teaching that benefits from and engages with the University's research-rich environment. Such teaching demonstrates a sophisticated, reflexive approach to teaching and innovative and inclusive approaches to educational design and practice. In 2021-22, the University introduced a new academic pathway (Teaching and Scholarship), to recognise and provide career development pathways for teaching-focussed staff, including a route to promotion to full Professor. To date, 340 staff members have moved to the Academic Teaching and Scholarship contract, and it has become a valued pathway for staff seeking to excel in their pedagogy. It has stimulated action research on the delivery of higher education within the disciplines, for instance, in evaluating novel approaches to teaching in veterinary sciences and other STEMM disciplines. For promotion within the role of Professor (to a higher grade), one of the criteria for promotion is 'Consistently delivers excellent teaching that benefits from and engages with Cambridge's research-rich environment and is intellectually challenging', which rewards those whose teaching practice enhances the student experience and indicates that innovative teaching is essential for professional progression to higher grades; a total of 440 staff have been promoted over the last four years.

### **2.8.4 Pilkington prize for excellent teaching**

The University rewards excellent and innovative teaching through the annual [Pilkington Prize](#); twelve awards are presented each year to academics whose teaching is exceptional. Faculties and

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Departments submit nominations, and the winners are selected by a committee of academics. The 2021-22 winners have demonstrated excellence in a variety of ways; some have made outstanding contributions to widening participation. For example, the winner in the Faculty of Law led the Faculty's path-breaking Exploring Law project, a highly innovative online course that aims to democratise access to the study of Law as an academic subject. Others were recognised for being outstandingly gifted lecturers and teachers who inspire their students with their enthusiasm for the subject. The pandemic disrupted teaching in the field across the world, yet the 2022 winner in the Department of Earth Sciences designed bespoke day trips that could be safely completed within strict COVID-19 constraints. University of Cambridge students were among the very few in the UK to receive any field education during the 2020-21 academic year, which is reflected in the glowing feedback that the winner received from students.

## **2.9 Supportive learning environment**

The University ensures a supportive learning environment, and our students have access to a wide and readily available range of outstanding quality academic support tailored to their needs (SE5). Student Barometer survey data shows 93.2% of undergraduate students who responded are satisfied with their experience at the institution (2019-20).

### **2.9.1 Personalised learning via supervisions**

Supervisions (see 2.2.4) allow teaching to be tailored in recognition of the individual student's strengths, weaknesses and specific academic interests. Students are supervised in their dissertations and projects by experts from Departments or Colleges matched to the students' interests and needs. Supervisors and Directors of Studies can also adjust the membership of the supervision groups to ensure the dynamic works well. All students in a particular subject normally receive a standard number of supervisions (see 2.2.5), but additional supervisions are offered to students who require support or are struggling with particular topics. This personalised and individualised approach means that a high proportion of teaching is tailored to students' interests, and supports their continued motivation and high academic engagement. The relationship built between supervisors and students is often the strongest academic bond for students. Students also receive written and verbal formative feedback from their supervisors on content, style and approach through detailed discussion with their supervisors and peers during the supervision.

### **2.9.2 College feedback**

In addition to supervisions, Colleges often organise informal progress tests and mock examinations during the academic year. These provide students with invaluable feedback on their progress, which complements the feedback given in supervisions and prepares them for the examination process. The Collegiate University takes the view that feedback through the supervision system is the most appropriate and effective way to support holistic student development, progression and attainment. Students therefore, and in line with other universities, do not receive detailed feedback on the end-of-year examinations aside from their marks. The University however requires all Examination Boards to provide detailed feedback on performance at the cohort level to students, supervisors and Directors of Studies. This enables supervisors to tailor support to students and cohorts in their following year of study.

### **2.9.3 Director of Studies support**

Each student has a [Director of Studies](#) (DoS) appointed by the College, who is an academic mentor and oversees cohort academic progression. The DoS's contact with a student is extensive: each DoS meets each of their students regularly to advise on their studies and monitor progress.

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Students and their DoS receive a termly supervision report from each supervisor as part of the monitoring of student progress. For instance, in 2021-22, supervisors provided approximately 51,600 reports to Directors of Studies in Michaelmas Term alone, enabling the effective support and timely interventions for students and their academic and pastoral needs. At the end of each term, students and their DoSs meet to discuss these reports together, with the DoS often providing frameworks to encourage students' reflective practice. This offers further feedback to the student and the opportunity to reflect on their progress and identifies tailored and personalised support for students that would enhance their academic practice. DoSs also liaise with individual Faculties and Departments on the student's behalf if the student is experiencing any difficulties. Each course has a Directors of Studies committee, which is the conduit between the Faculty or Department and the Colleges, allowing for the sharing of information about the curriculum and examinations, and supporting the educational partnership between the University and the Colleges. In most subjects, many DoSs are also academic staff who are employed as University Teaching Officers, which allows easy flow of information and the integration of academic staff between the University and Colleges.

#### **2.9.4 Cambridge Bursary Scheme**

The University is committed to the principle that financial difficulties should not undermine the student experience. Consequently, an unlimited number of bursaries are available to undergraduate degree students from low-income backgrounds through the [Cambridge Bursary Scheme](#) (CBS). The total amount awarded has risen year on year: in 2020-21, £9,898,375 was received by 3,179 students, £5,257,878 of which was awarded to those with family income of less than £16,000 per year. Eligibility for the scheme expanded significantly in 2021 now supporting students with household incomes up to £62,215 rather than the previous £42,620 and in the same year the Education Premium, an additional £1,000 for students previously eligible for free school meals, was also added. In addition, the University also makes provision for cases of unexpected financial hardship via hardship awards to any affected student, including those who do not qualify for a bursary. Colleges also make available, from their own resources and the generosity of donors, bursaries to support students in need of financial support. CBS is funded by both the University and Colleges, and is centrally awarded and assessed via student finance applications and paid automatically each term without requiring students to make additional applications. [Research conducted by the University](#) confirms the role financial support has in improving student attainment and outcomes. The researchers concluded that,

*“Students value the financial assistance highly, reporting that it alleviates concerns regarding their families’ capacities to support their study, eliminating potential burdens. It allows them to focus on their studies. It is seen to contribute to their wellbeing, including by enabling them to interact with more advantaged peers on an equal footing, ultimately providing the opportunity for a full and positive student experience while at Cambridge”.*

#### **2.10 Resources**

The University's physical and virtual learning resources are tailored and used effectively to support outstanding teaching and learning (SE6).

##### **2.10.1. Cambridge University libraries**

[Cambridge University Library](#) (CUL) is a network of 34 libraries providing students with services, study spaces of the highest standards, and access to world class collections. In the Barometer survey in 2019, students gave the library services a 98% satisfaction rating. The CUL network works collaboratively with College Libraries to provide wraparound library support, ensuring

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students can access the materials and services as needed, to enhance their learning and outcomes. Students participate in and benefit from CUL's user research and evidence-based approach to designing services. For example, the [FutureLib](#) reports on study space styles and the Student Learning Journey, resulted in a [Spacefinder](#) tool. CUL runs a LibQual+ survey benchmarked with other higher education institutions biennially, informing an increasingly robust cycle of review and evaluation.

### **2.10.2 Library services and resources**

The CUL holds almost ten million books, journals, and other documents, in more than 2,000 languages, ranging from 3,000-year-old manuscripts to the latest electronic journal articles. As one of the UK and Ireland's six Legal Deposit Libraries, the CUL can request every publication in both the UK and Ireland since 1710. Students heavily use electronic resources, with over 10 million downloads per annum from eJournals. The libraries spent more than £7 million in 2021-22 on journals, offering access to the latest research for research-led teaching. The University has access to over 1.75 million ebooks off-campus from a wide variety of publishers and most are available through links in the CUL catalogue. During 2021-22, 5.5 million requests were made by members of the University for sections of ebooks. Expenditure per student from the University Library and Faculties/Departmental libraries in 2021-22 was £475. Since the launch of a library-wide book request system in September 2022, more than 100 undergraduate students (as of November 2022) have requested materials to be purchased and ensures all students can request items outside of the collections. A range of resources are available to help incoming students to engage with the Cambridge learning environment ahead of their enrolment. [CamGuides](#) are used for this purpose and throughout the year; since July 2020, the UG CamGuides has had 100,000 hits with peaks in August/September.

The Leganto system holds 1,000 reading lists for 26 courses and has 12,000 active students<sup>1</sup>. Leganto categorises course texts e.g., as 'essential', or 'further reading' which supports students navigating course lists and managing their time.

The [Libraries Accessibility Service](#) (LAS) supports disabled students' access to resources in alternative formats. During 2021-22 the service has triaged more than 1,650 requests for assistance. The LAS helps to give students confidence that the library services are delivered by University professionals who are specialists in their accessibility. This has a number of important advantages: ensuring that students can access academic material in a format best suited to their requirements and therefore, ensure parity of access to enable them to study effectively; staff are hugely knowledgeable both about how libraries work and in strategies for meeting (and improving) students' access requirements; staff are able to use their specialist knowledge of copyright, intellectual property and publishing to contact appropriate sources and discuss direct access to materials.

### **2.10.3 Personalised library services**

The University, Faculty and College libraries provide a range of personalised services, such as local skills support at subject level, and a wide range of study spaces, (4,000 study spaces in the CUL and Faculties/Departmental libraries and the new [West Hub](#), sufficient to suit every need, from group study spaces to acoustic booths/single study spaces and larger reading rooms, many tailored to specific Tripos courses. Dedicated subject libraries, subject [LibGuides](#), websites and

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<sup>1</sup> 'Active student' means "The number of unique students that interacted with the list or citation in any way, for example, selected, liked, commented, or viewed the material".



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Moodle help students navigate their subject resources. LibGuides have received more than 104,000 hits in 2021-22. The 33 subject libraries have dedicated staff, collections and services. College libraries hold copies of key texts and special collections, and provide important local study spaces. Students can access the [Library Study Skills Catalogue](#), with more than 100 training events and inductions listed in autumn 2022, in addition to one-to-one support. The Catalogue means that all libraries can support individual students more knowledgeably, enhancing the support and service to students.

#### **2.10.4 Embedded museums**

The University's eight internationally renowned [museums](#) and [Botanic Garden](#) play a distinctive role in the learning environment for students. The globally significant collections cover a rarely paralleled breadth and depth across the arts, humanities and sciences while research projects and publications completed by Curators have been included in the 2021 REF. In 2021-22, specialists based within the collections taught 6,856 students from both the University and other HEIs. Teaching approaches include object handling, in-gallery and lab sessions as well as opening up spaces for taught classes, using the unique pedagogical power of objects to complement classroom teaching. The museums and collections contribute to a huge variety of undergraduate degrees including History of Art, Classics, English, History, Archaeology, Anthropology, Education, Natural Sciences and Geography, as well as supporting students' independent research projects. For example, in the Human and Political Sciences Tripos, students use a 3D model of a Tokyo earthquake from the Whipple Museum. The Sedgwick Museum's geological specimens are used in Earth Sciences laboratory and practical study; likewise, samples from the Zoology Museum are used in the study of biological sciences, and the Polar Museum is used for teaching and project work in Geography. The museums play an integral part in the University's widening participation efforts, with a school programme that welcomed 24,433 pupils in academic year 2021-22.

#### **2.10.5 Virtual learning resources**

Three centrally supported digital services enable Faculties and Departments to deliver synchronous and asynchronous blended learning. These are Moodle as a virtual learning environment, Panopto for Lecture Capture, and Turnitin to support academic integrity and identify potential misconduct. In addition, Departments often adopt local solutions, such as polling software or collaborative tools e.g., Miro or Padlet, complemented by best practice guidance and inspiration through the Technology-Enabled Learning (TEL) Service. The University is currently undertaking a wide-scale review of its approach to digital education: the TEL Service was developed in response to the COVID-19 pandemic and in its continuation, will develop a vision for blended learning at the University that aligns with our unique model of personalised learning support. Longer-term, it aims to ensure that virtual resources are centred on the learner's experience, and that staff are continually supported to enhance the educational offering, using the latest digital technologies. The University is more than doubling its staff capacity in the TEL Service.

#### **2.11 Student engagement**

The University embeds engagement with its students, leading to continuous improvement to the experiences and outcomes of its students (SE7).

##### **2.11.1 Approach to student engagement regarding course development**

Student engagement is actively prompted by seeking feedback after every module has been completed. This feedback is taken seriously by Faculties and Departments and has a significant impact on the development of teaching provision. A recent example of student feedback leading to

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meaningful course change is the Natural Sciences Tripos. In response to student feedback, the following changes were made: the rationalised the biological pathway of the course and decreased the number of lectures by 10% in Years one and two (from 60 to 54 lectures), increased the revision period by two weeks; reduced the number of formal examinations. In the Human, Social and Political Sciences Tripos, an additional topic on technology and conflict was introduced to Politics of Conflict and Peace in response to student suggestions. In the School of Biological Sciences, the Curriculum Review of the Medical Sciences and Veterinary Sciences involves 16 students across all its working groups, representing approximately 20% of the working group members. In the History and Modern Languages Tripos, student feedback led to additional choice of special subject papers. The Music Tripos was adjusted to streamline student workload while diversifying content and enabling more inter-disciplinary teaching.

In an example of typical engagement structures, the Department of Geography has a staff student consultative committee which includes two representatives from each year group, the President of the Geography Society and the elected academic representative. These students are also members of the Undergraduate Teaching Committee, chaired by the Head of Department. Alongside the termly meetings of the Directors of Studies which are attended by the Head of Department and the Director of Undergraduate Teaching, these mechanisms allow continuous feedback from students and in-session improvements, where needed. Changes to teaching structures are shared at an early stage with these committees before they are formalised by the Faculty Board and the University.

### **2.11.2 Compulsory student feedback**

Whether course change proposals are student-led or staff-led, course organisers must seek student feedback before course changes can be approved. Student representatives are also consulted on changes to programmes when they are approved at Faculty and School level. Additionally, students' academic engagement is carefully managed via the compulsory Supervision system (see 2.2.4 and 2.9.1).

### **2.11.3 Student representation**

In 2020-21 Cambridge SU undertook a review of the effectiveness of student representation, using reps' experiences of assessment changes in response to the pandemic as a measure of collaboration and co-design. Their findings were mixed, with some areas reporting excellent engagement but others less so. As a result, during 2021-22 Cambridge SU and the University developed [standards for academic representation](#), aiming to set clear expectations for how Faculties should work with their student representatives; these were published in June 2022.

### **2.11.4 Education Monitoring and Review**

Following a successful pilot in 2021-22, the University has replaced its periodic and annual monitoring of education with a new data-driven and risk-based process, [Education Monitoring and Review](#) (EMR). It will enable the University to evidence the high quality of its education and to demonstrate continual enhancement of the attainment of academic standards. It will also enable the University to systematically share good practice between and across cognate disciplines.

## **3. Student Outcomes**

The University provides students with outstanding support to succeed in and progress beyond their studies, which is tailored and highly effective (SO1).

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### **3.1 Continuation and Completion Rates**

The University has outstanding continuation and completion rates for its students (SO2).

#### **3.1.1 Continuation**

The TEF metrics show that full-time students at the University have very high continuation rates, (98.9% continuation rate for full-time undergraduates, against a benchmark of 96.9%). The split metrics for continuation reveal that the University has higher than benchmark scores for every single split (ethnicity, gender, disability, indices of multiple deprivation and so on), demonstrating a high level of consistency in this indicator. There is a high proportion of statistical certainty that the University performs materially above benchmark with respect to continuation rates for students aged 21 and over, students in ABCS Quintile one (97.4% compared to 91.6%), and non-UK domiciled students (98.4% compared to 94.3%). The University performs above benchmark in all but one subject area, veterinary sciences, which is in line with the benchmark to a high degree of certainty. The consistently excellent continuation rates attest to the high-quality support given to students that maintains their engagement with their studies and is effective in helping them overcome any barriers to their academic progress, in a way that delivers outstanding outcomes.

#### **3.1.2 Completion**

The TEF metrics for completion are similarly excellent, with an overall rate of 98.7% (2% above benchmark) for full-time students. Split metrics are above benchmark in every category, and in the completion rates across all subject areas. Full-time student completion is materially above the benchmark for students over the age of 21 (99% compared to 97.3%), for disabled students (98% compared to 94.8%), for students in ABCS Quintile one (93.1% compared to 85.4%), and non-UK students (97.9% compared to 93%). The University has an increasing number of students from IMD quintiles one and two, and students who identify as black, Asian or of minority ethnic background and these cohorts have completion rates above benchmark. This demonstrates that the University supports widening participation to get into Cambridge, and helps students to develop and succeed academically in and beyond the University. We attribute these completion rates to the wide range of tailored and effective academic and pastoral support given to students. The varied opportunities for students to engage in the breadth and depth of their academic discipline, and the rich academic experience effectively secures outstanding student outcomes.

#### **3.1.3 Support for particular student populations**

The collegiate system at the University of Cambridge allows specific academic and pastoral support to assist all students, appropriate to individual needs. Three Colleges accept mature undergraduates only and provide support tailored to their needs, including help to find childcare places, and organising study and employment skills seminars designed for them. Several Colleges offer tailored support for female students, with two women-only Colleges leading the way.

#### **3.1.4 Part-time data issue**

We note that the metrics on completion and continuation for part-time UG students for some of the earlier years of data (2011-12 to 2014-15) differ from more recent data. OfS metrics for part-time students extend to much earlier cohorts on the assumption that part-time courses take longer than full-time equivalent courses. Although this assumption is accurate for a range of part-time provision across the sector, it does not reflect the nature of part-time UG-level provision at the University of Cambridge where most part-time courses are less than one year in duration. **The reliance of TEF metrics for part-time students on data from 2011-12 to 2014-15 is artificially affected by data management practices on our student records system in place prior to academic years**

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**2015-16. It is not therefore an accurate or contemporaneous indicator of the outcomes of part-time provision currently at the University.** Prior to 2015-16, part-time student records were not routinely closed off on the system, resulting in the inclusion of a high number of continuing but dormant records in the HESA Student returns. This is the reason for the low figure for completion in the TEF data; data from this earlier period cannot validly and reliably be used as a proxy for teaching quality. The data for more recent part-time cohorts show continuation and completion rates above the OfS thresholds: for example, the continuation rate for part-time students in the most recent year of data was 86.6%; this is 19.8% above the benchmark value of 66.8%.

### **3.2 Educational Gains**

The University of Cambridge's research-intensive nature and the translation of research into the learning experience (see 2.7), alongside its focus on a personalised learning experience (see 2.9.1) informs its understanding of educational gains (SO4, SO5, SO6).

#### **3.2.1 Measuring educational gains**

In developing its understanding of educational gains, the University has considered that there is a range of conceptual perspectives to educational gains, emerging from the broad approach to and understanding of the purpose of higher education ([Kandiko Howson, 2018](#)). In designing its approach, the University has also considered whether the exceptionally high prior educational attainment of students on matriculated courses makes the measure of educational gains more challenging. We note too, the literature advocating that educational gains are better defined and measured within academic disciplines ([Arico et al., 2018](#)), which recognises the importance of Tripos curricula and experiences (including supervisions) in generating educational gains. Thus, the University's approach to educational gains is multi-dimensional in nature, including discipline knowledge alongside cognitive, metacognitive, social, communication and self-awareness skills. Educational gains for the University are also based on the many processes, services and opportunities through which students can acquire the skills and knowledge that enable them to thrive academically and in their progression from the University.

#### **3.2.2 Undergraduate skills framework**

The University is therefore taking a broad approach with skills development in both academic disciplines and co-curricular activity, including sport, music and societies. We consider these to be important elements of our educational provision. Accordingly, the University is developing an undergraduate skills framework to supplement academic course study and supervisions at the University, and the knowledge developed directly through these. The University's approach to educational gains is in part based on a validated learning gain framework developed by the University through research ([Vermunt et al., 2018](#)). Students will self-assess their abilities against the framework upon entry to the University and can do so again at periodic intervals throughout their studies. The self-assessment will identify to students where they might extend their skills. It is intended that academic courses will deliver most of the skills articulated in the framework but that particular disciplines may develop some skills to a larger extent than others. In all cases, but particularly to support opportunities for all students to develop any skill to greater depth, based on the self-assessment, students will be signposted to the wide range of resources and opportunities that will help them to address any skills gap or to strengthen any skills. An online Skills Framework platform will match students' skills profiles against their prior attainment, academic attainment, and their onwards progression into employment and provide the University with a sophisticated data set to inform its work on educational gains. The data will capture how and when students are developing their skills, and the skills portfolio with which they enter and exit the University. The

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University already has a rich landscape of opportunities and services through which students can develop skills beyond the curriculum.

### **3.2.3 Transferable skills from supervisions and independent study**

Cambridge students develop significant transferable skills during their studies. In supervisions students develop the ability to articulate their knowledge, engage in an academic discussion and debate with an expert on a regular basis, producing skills that employers value highly, such as the ability to formulate and respond to arguments, assimilate complex ideas and information rapidly and accurately, and apply information in new contexts. Across all disciplines, supervisions help undergraduates take a reflective orientation to their learning, develop the ability to communicate effectively (in writing and verbally), present ideas, evaluate evidence critically, and solve problems. In specific disciplines, skill provision also comes from academic courses and departments, for example, team working and presentation skills for projects and writing technical reports for laboratory work. The University's expectations for independent study, challenging work schedule and assessment through end-of-year examinations also help students develop the ability to manage their resources and time, to prioritise and to meet deadlines. The University's progression data, which is consistently above benchmark for nearly all disciplines, is discussed in 3.4.1.

### **3.2.4 Language Centre**

To help students gain skills which employers value, the [Language Centre](#) offers extra-curricular courses and conversation groups at levels from beginner to advanced, and provides a wealth of online resources and in-person support for learning over 180 languages through self-study. The Language Centre offers specialist foreign-language courses tailored to specific subjects, often co-taught with the relevant Department, for example, 'Languages for Medics', and provides bursaries for their courses for undergraduates studying sciences or medicine. The Language Centre sends online materials to all international students before they arrive in Cambridge to smooth their transition both to university and to studying in English.

### **3.2.5 Supporting entrepreneurship**

The University is passionate about providing students with opportunities to engage in enterprise and entrepreneurship, develop their entrepreneurial thinking and for those looking to develop start-ups. The [University Enterprise Network](#) brings together over 60 different entrepreneurship and innovation providers to give students with a range of opportunities. Student societies such as [Cambridge University Entrepreneurs](#) and [Cambridge University Technology and Enterprise Club](#), as well as sector specific societies like the [FemTech Society](#) enable students to meet like-minded students and get involved in developing knowledge and activities. Students can engage in [Venture Creation Weekends](#) offered by the Judge Business School, [iTeams](#) run by the Institute for Manufacturing, EnterpriseTECH, and for social ventures, the [Social Venture Weekends](#). Colleges also run their own enterprise and entrepreneurship programmes like the [King's Entrepreneurship Lab](#) and [LucEnt](#) at Lucy Cavendish College. Start-up and spin-out support ranges from prizes and competitions, venture support (like [Accelerate Cambridge](#) and the [Ignite programme](#)) for those focused on global equality, and the [Impulse](#) programme for tech innovators. Co-working space is available through our three [ideaSpace](#) sites and the new [Canopy](#) workspace; and Cambridge supports IP strategy and access to capital. The [University Enterprise Network](#) also creates links with the wider Cambridge ecosystem to leverage Europe's leading technology and life science innovation cluster to help our student's venture grow, scale and succeed.

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### **3.2.6 Co- and extra-curricular activities**

Co-curricular activities, such as taking part in subject-focussed societies, academic conferences or field trips, are unrivalled opportunities to extend learning beyond the scope of lectures, supervisions and lab classes. Students experience their subject in real world contexts, enabling them to supplement their knowledge and master the skills they need to achieve their best possible performance in their academic course and beyond. Participation in extra-curricular activities including volunteering, sports, music and drama enable students to deploy and hone skills developed through their studies in new environments and situations. Many opportunities are available through student-led clubs and societies supported by University staff acting as senior committee members. The University records [354 official students' societies](#) ranging from subject or vocational ones such as *Lawyers without Borders Student Division* or *Surgical Research Society* through to cultural e.g. *The Hindu Cultural Society* or *Islamic Society*.

### **3.2.7 Opportunities for responsibility and leading student communities**

Beyond membership and participation, the opportunity to take on positions of responsibility within the Societies, Sports clubs and student representative bodies within the Colleges, provide additional opportunities to enhance individual learning and development. Where societies and sport clubs exist in each college, these opportunities for undergraduates to lead clubs and societies are multiplied up to 29 times (i.e., the 29 undergraduate colleges) and provide a very considerable volume of student leadership opportunities.

### **3.2.8 Music**

From the world-famous [choir at King's College](#), to the newly established [Centre for Music Performance](#) (CMP), there are many opportunities for students to participate in music. The CMP enables students of all subjects, backgrounds and levels of musical ability – as well as members of the local community – to make music of all genres a core part of University life. In establishing the CMP, the University made a visionary commitment to the place of music within a Cambridge education, recognising both the joy it brings to many and its potential to foster excellence, support mental health and wellbeing, and promote inclusivity.

### **3.2.9 Sport**

Although famous for its elite Boat Race crews, the University firmly believes that sport is for everyone. We continue to support and celebrate several high-performance athletes among our students across a variety of sports, however, the [University Sports Service](#) is committed to developing sport within the University and across Cambridgeshire. We are proud of our programmes for most students whose engagement in sport and physical activity is at every level, from beginners upwards. This might include competitive sport - with one of the [80 sports clubs and societies](#) in BUCS, local competitions or the [intercollege sport](#) leagues - or it could be sport for socialising and fun, joining an activity that students haven't tried before. The Sports Service and the Colleges encourage students to take full advantage of facilities as a positive part of their student experience. University research confirms that the benefits of physical exercise go beyond enjoyment, with positive effects on mental health, and [even academic performance](#).

### **3.3 Careers Service support**

[Careers Service](#) support for matriculated students is accessible through proactive central provision but is also surfaced through the Faculties and Departments in the form of bespoke workshops, interactive sessions and 'drop-in' appointments with Careers professionals. Students are encouraged to engage with these services at an early stage in their course. Similarly, the Service

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has a presence within Colleges e.g., within the Lucy Cavendish College library or by hosting pop-ups in cafes and other student spaces. In addition to the Careers Events programme open to all students, faculty specific fairs are held in Mathematics, Economics and Law, enabling students to gain a wider understanding of the career opportunities available, and access to employers seeking their specific knowledge base and skill set. The Careers Service implemented [Handshake](#) in June 2020. Handshake was chosen as a result of its commitment to 'democratising opportunity' and because of the integrated and innovative artificial intelligence components which allow support to be personalised to each user and adapted for each stage of their career development journey. Handshake enables the capture and analysis of a rich data set regarding students' engagement with career development activities. This data is regularly reported back to Colleges and departments, alongside and in concert with Graduate Outcomes data, and is used to inform the development of support and resources available. The Handshake platform allows individual appointment types to be 'ring-fenced' based on a wide range of criteria, including academic course and year of study, career aspiration, and equality, diversity and inclusivity characteristics, thus enabling targeted provision of a responsive service. All Cambridge alumni have lifelong access to support from the Careers Service.

### **3.3.1 Targeted support**

Personalisation is key, and targeted support and content is available for groups of students which have either been historically underrepresented in the student body, or where data at national levels suggest they may be at risk of under- or unemployment upon graduation. For example, the Black Career Journeys project enables students of Black heritage to interview a range of alumni about their University and early career experience. This approach has expanded to mature students and future iterations will focus on other equality, diversity and inclusivity characteristics. With the introduction of the University's Foundation Year Programme a representative feedback and consultation group has been convened from that cohort who will inform the Careers Service's support for this programme, including opportunities to meet with employers. There is also specific and dedicated support for other under-represented cohorts, such as care-experienced students.

### **3.3.2 Employer engagement**

The Careers Service engages actively with in excess of 7,000 unique employers. A smaller subset comprises the Careers Service supporters' group which is committed to providing learning opportunities for our students and is representative of a broad range of employment opportunities covering everything from roles within the prison service (via Unlocked Graduates), to banking, consultancy, teaching and a wide variety of small-medium enterprise-based opportunities.

### **3.3.3 Alumni engagement**

Our [alumni](#) are globally employed and are global employers in every corner of the labour market; bringing these alumni back to the University, whether in physical or virtual format, allows students to broaden their horizons and build valuable connections. Students are supported to connect with alumni via the [Alumni Careers Connect](#) platform and networking events. Panel discussions and our 'In Conversation With'; series helps to engage students with the world beyond Cambridge. Alumni engagement also provides employment opportunities for students e.g., one of the co-founders of [10,000 Black Interns](#) is an alum, and so when the organisation developed a new programme 'Able Interns' aimed at placing those students and recent graduates with a declared disability into high quality internship roles, the University was able to support the pilot year of that project.

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In addition to this universal provision, each College offers a rich and varied programme of opportunities for their students to connect with their College alumni community. These take many forms including lectures, talks, dinners, networking events and mentoring programmes.

### **3.4 Employment**

The University has outstanding rates of successful progression for its students and courses (SO3).

#### **3.4.1 Progression to graduate employment**

Students at the University acquire knowledge and skills that are relevant and highly valued by employers; the University achieves consistently outstanding outcomes for its students from all backgrounds and has above benchmark scores in full-time progression metrics (87% compared to 85% benchmark). The University is above benchmark for each demographic split indicator, including relating to those at risk of less positive outcomes, such as disabled students (83% compared to 81% benchmark), those from ethnic minority groups and students from deprived areas. In particular, the University performs materially above benchmark with high certainty for students over the age of 21 (88% compared to 82% benchmark), those in in ABCS quintile one (83% compared to 76% benchmark), students of non-white ethnicity (92% average compared to 88% average benchmark), students in deprivation quintile one or two (88% compared to 83% benchmark) and those previously eligible for free school meals (90% compared to 82% benchmark). The University has enrolled an increasing number of students from IMD quintiles one and two, and students who identify as black, Asian or of minority ethnic background [in recent years](#); these cohorts have progression rates above benchmark. This demonstrates that the University does not just support widening participation to get into Cambridge, but also to progress and succeed following Cambridge. Progression rates notably outperform benchmark for subjects relating to performing arts, sociology, social policy and anthropology, and geography. The University performs consistently on this indicator attesting to its high quality tailored and effective support for students which leads to outstanding rates of student progression across all students and courses.

#### **3.4.2 Employment options**

The University Careers Service is committed to a 'personalisation at scale' model. Students reflect on their areas of interest and ambitions which informs communications and interactions with individuals and also the development of the Service. For example, employer engagement activities are prioritised based on data from the Graduate Outcomes survey in conjunction with an analysis of sector and role interests of current students (captured through direct student input and also data on interaction with vacancy listings and events), alongside labour market intelligence through interaction with relevant organisations including Office for National Statistics, Institute of Student Employers and research on world-wide labour markets and economies. This enables the Careers Service to ensure that support is timely, relevant and tailored. Students value this support, and in the 2019 Barometer survey they gave the Service a 95% satisfaction rating. This approach complements personal and professional development activities provided by Colleges e.g. [Changemakers](#) at Homerton Colleges which helps students develop their awareness of self, society and the practical abilities to make a positive difference in the world; and the academic and career-focussed [Gateway Programme](#) at Murray Edwards College.

#### **3.4.3 Longitudinal Educational Outcomes data**

The University's [LEO](#) data confirms our graduates' continued progression success with those in sustained employment, further study or both at five years post-graduation standing at 84.2%.



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#### **3.4.4 Graduates going on to further study**

According to the [HESA Graduate Outcomes](#) survey, 25.0% of Cambridge graduates in 2019-20 were in further study or 'employment and further study' after 15 months, compared to 19.9% across all UK institutions. The University has a much higher proportion of graduates choosing full-time further study: 15.7%, compared with the 8.4% average across UK institutions (see 2.7.2).

#### **3.4.5 Graduate Outcomes survey**

In the HESA Graduate Outcomes [HESA Graduate Outcomes](#) survey, graduates are asked to summarise their feelings about their activities at the time of the survey (graduate voice questions). In 2019-20, 85% of graduates agreed that their current activity fits with their future plans, compared with 77% across all UK institutions; and 75% agreed that they are using what they learnt from their studies in their current activity compared with 70% across all UK institutions. Those in full time further study were particularly positive about using what they learnt from their studies in their current activity with 91% agreeing or strongly agreeing, compared to 86% across all institutions.

#### **3.4.6 Employability rankings**

Most domestic ranking tables use the Graduate Outcomes data set: the strong performance of Cambridge graduates in the labour market is recognised in these publications. Further evidence of Cambridge graduates being highly sought after by employers is provided by the *Times Higher Education Supplement's* [Global University Employability Ranking 2022](#), which is based on large samples of employers voting on which universities produce the most employable graduates. Cambridge University is one of only two universities in the UK to appear in the top ten for 2022.

## **4. Conclusion**

The University of Cambridge delivers an outstanding education beyond the regulatory baseline. We believe that the opportunities we offer to our students through the student experience are excellent and world class. Significantly, the University uses its world-leading research capabilities to enhance and refresh the curriculum across all disciplines, to involve and inspire the next generation of scientists, educators and innovators, to investigate how and where we can further improve our pedagogical offering to students, and through reflective practice and a commitment to continual improvement. In light of our mission to pursue the highest international levels of excellence, we recognise the necessity of continuous improvement. We welcome the opportunity to set out our approach to educational gains, and believe the excellent outcomes of our students are evidence that our students are attaining the gains that we intend for them. Notwithstanding this, we look forward to reporting further on the successes of our approach to educational gains in TEF 2027.