

Education Space and Examinations

The objective of this report is to present an overview of examinations at Cambridge and their relationship to space. It primarily focusses on examinations administered by the central Exam Operations and Mitigating Circumstances team in Education Services. Furthermore, this report aims to:

- Inform the University's estates strategy, building works, and priorities.
- Highlight elevated risk areas for the University.
- Guide decisions about teaching growth and new courses.
- Stimulate discussions within Schools regarding examination numbers and timing, especially during teaching periods.

This report complements the '[*Review of Central Education Space: a critical moment*](#)' paper discussed at the Programme Board for Education Space in February 2023.

The main conclusion is that the current availability of space to the central Exam Operations and Mitigation Circumstances Team is insufficient to meet current and emerging needs.

The evolution of assessment methods towards diversification necessitates additional and different space, which appears to be scarce. The lack of suitable accommodation presents challenges in meeting the desire to transition from traditional to digital assessments. Increasing numbers of students with examination adjustments and changing student needs for adjustments strain available University venues and College accommodations.

This report makes [eight recommendations](#) to deliver the increase desire for digital assessment and to provide the required environment for disabled students.

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EXECUTIVE SUMMARY

- 1. Regulation of Examinations:** Examinations are governed by specific Ordinances detailed in Chapter III, dictating timing and processes for Triposes, particularly intensifying during the Easter Term. Additionally, Chapter VII outlines regulations for certain postgraduate degrees and diplomas.
- 2. Pressure Points:** A notable challenge arises as some examinations coincide with teaching periods, intensifying the competition for space allocation between teaching and examination needs. The increase in number of students awarded examination adjustments requires additional and different examination environments, most of which fall to Colleges to provide due to lack of identified suitable University space.
- 3. Examination Timing and Load:** Examinations occur monthly throughout the year, excluding August. The Easter Term notably hosts the most concentrated examination schedule, peaking in June. Supporting data encompassing examination numbers over the year further illustrates this intensity.
- 4. Examination Venues and Space Constraints:** The University relies heavily on specific venues, including centrally managed and department spaces, for scheduling examinations. Insufficient University space necessitates the hiring of external venues. This challenge might stem from limited visibility of and accessibility to all University-owned spaces. Moreover, diverse space design and standards hinder their suitability for examinations and digital assessment, thereby limiting available options. Additionally, decentralised storage across the University estate necessitates third-party transportation, impacting efficiency, quality, and costs of provision. Space constraints are limiting the University's offering to students with examination adjustments, and straining College provision.
- 5. Operational Challenges:** Significant operational challenges include the absence of contingency space for crisis management during emergencies. Moreover, the lack of dedicated space for coordinating examinations hampers operational efficiency. The delivery service model across assessment modes remains unstable, preventing the establishment of a defined operating structure and funding model.
- 6. Impact on Education and Student Support:** The evolution of assessment methods towards diversification necessitates additional and different space, which appears to be scarce. The lack of suitable accommodation presents challenges in meeting the desire to transition from traditional to digital assessments. Increasing numbers of students with examination adjustments and changing student needs for adjustments strain available University venues and College accommodations.

RECOMMENDATIONS

- 1. Before the end of the academic year (AY) 2023-24, update the education space performance and technical specifications.**
- 2. Before the end of the AY 2023-24, develop process to identify diverse examination spaces** to accommodate different examination modes (e.g., digital assessment) and examination adjustments (e.g., low-density rooms).
- 3. From start of AY 2024-25 start rolling programme of improvement works,** identified in point 2 above.
- 4. For Easter Term 2024, provide space for the Examinations Office** on the New Museums Site.
- 5. Consolidate examination storage.**
- 6. Update MICAD to include examinations space,** by mode, design, and readiness.
- 7. Universal adoption of Booker** for education spaces and until then access to the GIS map.
- 8. Schools to consider the timing and load of examinations.**

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A. REGULATION OF EXAMINATIONS

- 1. Tripos Examination Governance:** [Chapter III Ordinances](#) govern the timing and processes of Tripos examinations. These encompass candidate entries, examination dates during the Easter Term, the format and conduct of examinations and deadlines for class-list submissions. The Exam Operations and Mitigating Circumstances (EOMC) team ensures strict adherence to these regulations, resulting in a notably intense examination period during Easter Term.
- 2. Postgraduate Degree Regulations:** [Chapter VII Ordinances](#) specify regulations applicable to certain postgraduate degrees and diplomas. While outlining the examination scheme, these regulations generally do not specify examination dates. The EOMC team Office collaborates with Faculty Boards to schedule and support delivery of these examinations.
- 3. Assessment Methods Evolution:** Handwritten, 3-hour examinations remain the most used mode of assessment. However, the University aims to diversify assessment, especially following the COVID-19 pandemic and consequently the General Board, in May 2021 ([The Reporter, 19 May 2021](#)) and later in January 2022 ([The Reporter, 12 January 2022](#)), approved a temporary Framework for Assessment until September 2025. This Framework offered Faculties and Departments the flexibility to choose operationally viable assessment modes from a range of options. On 8 February 2023, the General Board's Education Committee recommended that Ordinances should be permanently revised to maintain the flexibilities offered and a Joint Report of the Council and the General Board on the regulation of the methods and modes of assessment in University examinations ([The Reporter, 14 June 2023](#)) outlined the required changes.
- 4. Accountability and Committees:** The Exam Operations and Mitigating Circumstances team is accountable to the General Board Education Committee and to its sub-committee, the Examination Access, and Mitigation Committee (EAMC).
- 5. The General Board Education Committee (GBEC):** GBEC regularly reviews the Framework for Assessment and acknowledges the growing preference for typing over handwriting. Additionally, GBEC notes the concerns within Schools about the integrity of certain alternative modes of examinations, particularly those that lack invigilation and are conducted through an open browser.
- 6. The Exam Operations and Mitigating Circumstances (EOMC) team,** within Education Services (Academic Division) plays a crucial role in managing the operational aspects of examinations for undergraduate and postgraduate taught (PGT) courses. The EOMC team work to an annual work schedule (see [Appendix C](#)), which includes scheduling most University examinations in accordance with the prescribed timetable in Chapter III, Ordinances. Additionally, the team oversees the administration of exceptional circumstances and allowances for undergraduate and PGT students.
- 7. The EOMC team process and publish examination results (class-lists)** ready for undergraduate graduations (known as General Admission), which occur in late June/early July, sometimes only 10 days after the last examinations. Many postgraduate students choose to graduate at Congregations scheduled in mid-July.
- 8. The EOMC team comprises 23 core staff members, of whom 14.5 are dedicated to exam delivery and 8.5 focus on examination mitigation.** At peak exam time, the team expands through the engagement of up to 260 examination casual staff.

B. PRESSURE POINTS

9. There are specific pressure points on certain venues and at particular times for several reasons, including:
- The necessity to adhere to the examination schedule outlined in Chapter III Ordinances.
 - The obligation to conduct professional examinations, including resits, at designated times and in specified formats.
 - That some part-time courses require examinations to be held on dates to coincide with residency plans and teaching.
 - The clash between teaching and examinations during Term.
 - Overlapping schedules between early examinations (weeks 1-4) and teaching in Easter term.
 - The reliance on centrally managed education spaces versus the increased demand for central venues for teaching, increasing the competition with examination needs.
 - The reliance on department spaces, especially for digital assessments, during Term.
 - The need to provide separate space to accommodate the increase in the number of candidates with examination adjustments.
 - The need to respond to the increase in the number of recommendations in the Student Support Documents for low-density space for disabled students.

C. EXAMINATION TIMING AND LOAD

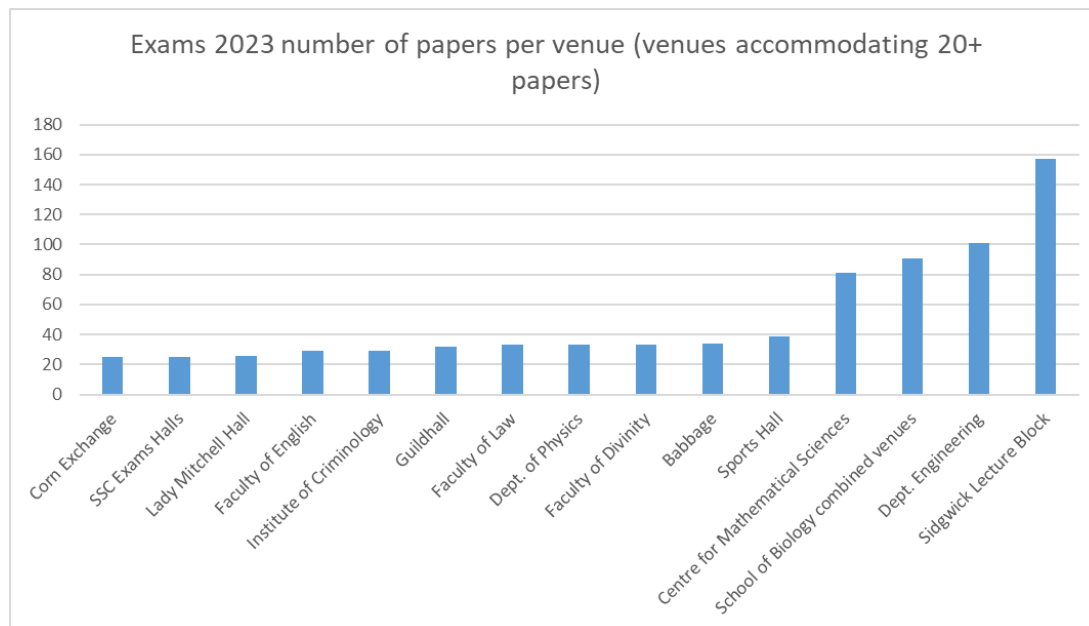
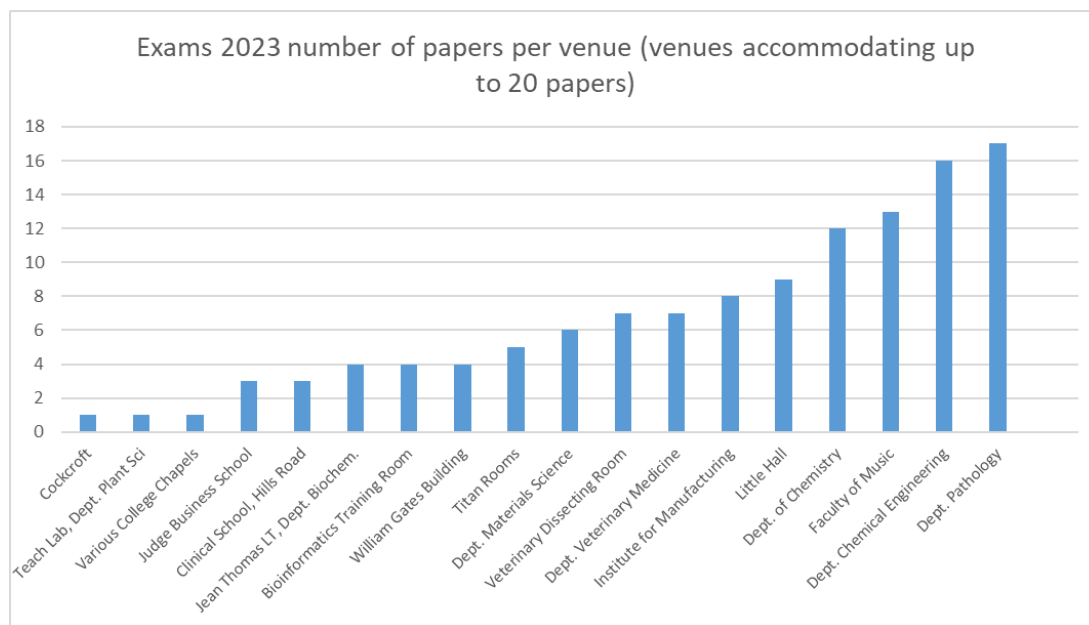
10. Examinations are conducted monthly throughout the year, excluding August. **Easter Term is the most concentrated examination period.** More detail is available in [Appendix D](#) and reinforces the importance of the venues used as well as the intense pressure on the venues at certain times of the year.
11. **Over the year, the examination load varies.** The table below summarises examinations scheduled in physical venues in 2023. As referred to in section A, the examination load in May and June is determined by specific Ordinances detailed in Chapter III. Most examinations in Easter Term are sat by mid-June.

	No. papers examined	No. student enrolments	No. hours venue used for exams	No. venues used	No. days of exams	Total no. 'venue days'	Date range
Jan	21	1,201	42	5	9	15	10 - 20 Jan
Feb	3	34	7	1	3	3	6 - 8 Feb
Mar	12	1,793	19	5	4	8	13 - 17 Mar
Apr	86	3,286	70	8	8	24	17 - 28 Apr
May	271	15,711	388	27	20	105	1 - 31 May
Jun	464	27,377	546	31	15	142	1 - 30 Jun
Jul	1	3	3	1	1	1	31-Jul
Sep	30	465	44	4	12	17	1 - 27 Sep
Oct	2	59	5	2	2	2	2 - 17 Oct
Nov	4	253	8	1	2	2	28 - 30 Nov
Dec	9	1,025	20	4	5	8	6 - 14 Dec
Totals	903	51,207	1,151		81	327	

12. Most venues will accommodate more than one examination paper. The number of papers adds complexity to scheduling examinations and any change and increase in papers places pressures on the estate. The scheduling process must also consider the length of the examination, avoiding scheduling differing lengths in the same room, although not necessarily the same venue (see paragraph 27).

The charts below show the venues used in 2023 to accommodate in-person examinations, but do not include the venues used for students with examination adjustments.

The EOMC team rely on each venue, but the second chart below shows that **any loss of the following particular venues would be extremely problematic**: the Sports Hall, the Centre for Mathematical Sciences, multiple venues within the School of Biological Sciences, the Department of Engineering and Sidgwick Avenue Lecture Block.



13. The following heat map shows the number of hours of in-person examinations hosted per venue in 2023. The data is illustrated in increments of 15 and does not include venues used to accommodate examination adjustments.

The map shows that **over the year, there is a reliance on the following centrally managed spaces:** Student Services Centre, the Babbage Lecture Theatre, Lady Mitchell Hall, Sidgwick Lecture Block, **and the following departmental space:** Department of Physics.

At peak examination time, the red and amber cells highlight the spaces in most use. Whilst there is some reliance on some centrally managed spaces, there is high utilisation of departmental spaces, including the Centre for Mathematical Sciences, Department of Engineering, the Sports Hall, departments within the School of Biological Sciences, and the Faculty of Music. Their loss would have a huge impact.

Venue	Jan	Feb	Mar	Apr	May	Jun	Jul	Sep	Oct	Nov	Dec	Totals
Cockcroft			0.75									0.75
Teaching Lab, Dept. of Plant Sciences						1.5						1.5
Judge Business School	2								2		2	6
Clinical School, Hills Road		7										7
Titan Rooms					5	2						7
Jean Thomas LT, Dept. of Biochemistry					3	4.5						7.5
Little Hall				3	6							9
Veterinary Dissecting Room					1.5	3		5				9.5
Bioinformatics Training Room					6	4.5						10.5
William Gates Building						12						12
Faculty of English					2	13.5						15.5
Department of Pathology								16				16
Department of Veterinary Medicine								17				17
Department of Chemistry					3.2	15.8						19
Institute for Manufacturing				9.7	10							19.7
Corn Exchange					3	21						24
Faculty of Law					9	13					2	24
Department of Chemical Engineering					10	14.7						24.7
Institute of Criminology					9.5	16.5						26
Department of Materials Science				6	18	3						27
Divinity School, Faculty of Divinity					9	18						27
Guildhall					9	24						33
Various College Chapels					35							35
Department of Earth Sciences					15	27.5						42.5
SSC Exams Halls	3.5		8		13	2				8	9	43.5
Babbage				2.2	17.2	21	3	6	3			52.4
Lady Mitchell Hall	6.3			4.3	36	8						54.6
Dept. of Physics	14			16.5	10	15						55.5
Centre for Mathematical Sciences					2	54						56
Dept. of Engineering				15.9	22	30.6						68.5
Sports Hall			4		12	60						76
School of Biology combined venues			4.25		31	54.8						90.05
Faculty of Music					47	56						103
Sidgwick Lecture Block	16.5		2	12	44	49.8					6.6	130.9

14. The scheduling of some examinations coincides with teaching periods, thereby heightening the challenge of allocating space between teaching and examination needs. Most of these examinations are scheduled at the request of the Faculty/Department rather than as determined by Ordinances.

As an example of the scheduling clash, the following calendar shows when examinations clashed with teaching in the calendar year 2023. Such clashes either require the lecture series or examinations to move. Since both rely on the same venues, this is a challenging problem to solve.

The chart is coloured as follows:

Teaching weeks	Exam dates	Teach-Exam clash
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Teaching and examination calendar 2023

January 2023							
U of C week no.	Thu	Fri	Sat	Sun	Mon	Tue	Wed
	5	6	7	8	9	10	11
0	12	13	14	15	16	17	18
1	19	20	21	22	23	24	25
2	26	27	28	29	30	31	
February 2023 ¹							
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
2							1
3	2	3	4	5	6	7	8
4	9	10	11	12	13	14	15
5	16	17	18	19	20	21	22
6	23	24	25	26	27	28	
March 2023							
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
6							1
7	2	3	4	5	6	7	8
8	9	10	11	12	13	14	15
9	16	17	18	19	20	21	22
	23	24	25	26	27	28	29
	30	31					
Easter 2023	April 2023						
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
	13	14	15	16	17	18	19
	20	21	22	23	24	25	26
1	27	28	29	30			
May 2023							
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
1					1	2	3
2	4	5	6	7	8	9	10
3	11	12	13	14	15	16	17
4	18	19	20	21	22	23	24
5	25	26	27	28	29	30	31
June 2023							
	Thu	Fri	Sat	Sat	Mon	Tue	Wed
	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	18	19	20	21
	22	23	24	25	26	27	27
	28	29	30				
Michaelmas 2023	September 2023						
0	28	29	30				
October 2023							
	Thu	Fi	Sat	Sun	Mon	Tue	Wed
				1	2	3	4
1	5	6	7	8	9	10	11
2	12	13	14	15	16	17	18
3	19	20	21	22	23	24	25
4	26	27	28	29	30	31	
November 2023							
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
4							1
5	2	3	4	5	6	7	8
6	9	10	11	12	13	14	15
7	16	17	18	19	20	21	22
8	23	24	25	26	27	28	29
9	30						
December 2023							
	Thu	Fri	Sat	Sun	Mon	Tue	Wed
9		1	2	3	4	5	6

¹ 6, 7, 8 Feb 2023 dates are for examinations held in the School of Clinical Medicine.

- 15. The number of students with examination adjustments has increased by 52.95% from 2017-18 to 2022-23;** with a significant increase of 19% from 2021-22 to 2022-23. The table below records the number of students receiving examination adjustments. These students are mostly accommodated in separate venues and mainly in Colleges (due to the lack of identified University space).

2022-23	2021-22	2020-21	2019-20	2018-19	2017-18
2,470	2,075	1,421	1,467	1,660	1,615

D. EXAMINATION VENUES AND SPACE CONSTRAINTS

- 16. The Exam Operations and Mitigating Circumstances team annually secures venues to accommodate most examinations,** listed on the webpage: [Exam sites | Cambridge students](#) and summarised in [Appendix A](#).
- 17. There has been a decrease in the availability of centrally managed space** due to the closure of the Mill Lane Lecture Theatres and the loss of the previous Examination Halls on the New Museums Site, placing more reliance on other spaces.
- 18. Most examination venues are used for teaching purposes** leading to scheduling conflicts (see paragraph 13). To maintain stability in the lecture series, examinations often need relocation.
- 19. Examinations are scheduled into spaces across the estate, including departmental and centrally managed spaces.**
- 20. The Sports Hall has become a crucial space,** incurring annual hire costs of £73,500 and additional costs, paid every few years in contribution to the installation of a carpet.
- 21. Externally hired venues are necessary to supplement centrally managed spaces,** on both temporary and medium-term basis, and these also vary in standards.
- 22. The standards of the spaces vary,** and most are not ready to support delivery of digital assessment.
- 23. The pilot of digital examinations** has brought on stream new venues, mostly laboratory teaching spaces. [Appendix B](#) shows the readiness of venues to host digital examinations.
- 24. Raked lecture theatres are utilised out of necessity** rather than choice to accommodate examinations.
- 25. Not all departmental spaces are visible on Booker,** posing challenges when assessing available venues for potential use.
- 26. Some examination venues are on public highways,** raising concerns about the student flow and the safety of students and the public with the exuberance often observed at the end of exams.
- 27. More space is required to accommodate the variation in examination durations.** To minimise noise disruptions caused by candidates leaving the room, which can lead to requests for examination allowances and complaints, examinations of the same length are scheduled into a single room. (In times past, only examinations of identical duration were scheduled in the same venue to prevent noise disruption. However, due to lack of venues, this approach has been modified.)
- 28. Space limitations for students with examination adjustments result in candidatures sitting examinations in-College.** For example, in Easter Term 2023, 3,057 candidatures were in-College. This requires Colleges to provide the space, invigilation, and staff provision (e.g., to collect and return the examination packs) and, where required, the technology and support. Furthermore, Colleges absorb these costs.

- 29. Existing space constraints frequently lead to situations where students granted additional time or rest breaks, and who take their exams in a University setting rather than at College, often find their morning exam sessions extend into the afternoon.** Consequently, candidates for the afternoon session might receive pre-examination announcements outside the venue, sometimes even in stairwells, and subsequently need to enter and settle into the exam room in complete silence.
- 30. All examination venues require the following attributes.**
- a. Accessible, quiet venue free of noise distractions, ambient temperature.
 - b. Flat floor as tiered space is not desirable (although used by necessity) because of (i) need for movement should a candidate need a toilet break; (ii) need for access for Invigilator if candidate has exam-related issue; (iii) space to allow the Proctors to patrol the room; and for digital examinations (iv) need for access if candidate has technical issues and (v) visibility of screens.)
 - c. Secure storage of examination materials (e.g., question papers, stationery) or space to provide temporary secure storage.
 - d. Toilet provision.
 - e. Water provision.
 - f. Clocks in room.
 - g. Means to relay corrections to exam papers to candidates (e.g. white board).
 - h. Space for personal belongings.
 - i. Single desks with 1m space between candidates.
 - j. A desk within the exam room for the Invigilator.
 - k. Seating area outside the exam room for the exam attendants.
 - l. Space outside the exam room, but in the near vicinity for examination supervisors to be based. This space needs to either provide or allow use of a computer, power/WIFI and telephone and welfare facilities (e.g., fridge, refreshments).
- 31. Examination venues for digital examinations also require the following attributes.**
- a. Wi-Fi.
 - b. Power sockets. The current pilot of digital examinations indicates that each venue should provide a power socket for about 10% of the candidates as a minimum (noting current provision is much higher).
 - c. Larger desks.
 - d. More flat floor space to accommodate additional desks near the sockets. These desks are left empty so that students can move there if their power fails. (Tiered space is unsuitable because of (i) visibility of screens and (ii) need for access if candidate has technical or other exam-related issues.)
 - e. Secure storage space for hardware.
- 32. Examination venues for examinations for students with exam adjustments require the following attributes (the Titan Rooms being a good example.)**
- a. Wi-Fi.
 - b. Power sockets, (see 31b).
 - c. Larger desks.

- d. Rising desks.
- e. Adaptability of space to meet the increasing and changing requirements to support students (e.g., low-density rooms. Low density can mean a room of not more than 10 or 20 candidates – compared to usual size of 40+ with increased spacing between candidates and some possible additional screening).
- f. Additional space to accommodate students with extended times, which means their examination window exceeds the ‘standard’ time. For example, a student sitting a morning exam who has been awarded 5-hours to sit a 3-hour examination will start at 9am and end at 2pm. This means their end time runs into the standard 1.30pm start of an afternoon examination.

33. The Examinations Office requires the following from mid-April to end June each year.

- a. A minimum of 2 separate rooms, ideally 3, located together and large enough to distribute and receive examination packs for students with examination adjustments. In Easter Term 2023, 5,997 packs were individually created for students with examination adjustments.
- b. Rooms that are secure and able to be locked by staff.
- c. Networked, with robust Wi-Fi.
- d. Printing capabilities.
- e. Central location – as close to the New Museums Site as possible.
- f. Minimal passing traffic from students or other staff.
- g. Accessible 7am – 7pm each weekday, on weekends and Bank Holidays in May.
- h. Welfare provisions for staff, including sanitary facilities as well as fridge, hot and cold running water.
- i. Ground floor access.
- j. Access for and secure storage of 3-4 bicycles and trailers.

34. Some departments schedule and host examinations independently, especially practical examinations. This paper does not encompass these needs as they are unfamiliar to the central administration.

E. OPERATIONAL CHALLENGES

35. The annual examination cycle is challenging for all involved, as shown in the workflow in [Appendix C](#).

36. The examination timetable is constructed in Michaelmas Term, after the enrolment window closes (8 November) and therefore there must be certainty on the venues available. The recent and frequent changes to the Estate (which will not diminish under Reshaping the Estate) creates uncertainty for the team.

37. Access to and reliance on a limited number of venues does not allow any contingency space for crisis management during emergencies. If such emergencies arise and no suitable alternative venues can be found at the time of the examination, then a ‘procedural irregularity’ would be initiated that might lead to a rescheduling of the examination. This is not satisfactory to the candidates nor to Examiners.

38. The lack of a reliable and adequate space for the Examinations Office creates uncertainty and inefficiencies. Before the building works created the Student Services Centre, the Arts School offered flat floor examination space and a dedicated examination area allowing for on-site storage of materials, a dedicated working area from which the EOMC team could coordinate operations, including the receiving

and distribution of exam scripts. Every year, following the loss of the examination area, the team have used different venues, all of which fall short of the previous provision and are inadequate for their needs.

In Easter Term 2023, the EOMC team used the central store on the New Museums Site. This provided a secure area to prepare the consumables for delivery across all venues. This space is required in advance of the examinations for the consumables to be delivered, sorted by venues, and distributed to those venues. The space is also required post-examinations to receive returned consumables from which a stock-check occurs. The team now advise that they have outgrown the space provided on the New Museums Site for secure storage of examination packs.

- 39. Examination materials (including desks, stationery) are stored across the estate** (e.g., in containers within Lord's Bridge and in Parsons Court). Most of the storage is in space of poor quality and requires transportation to and from the exam venues (via a third-party supplier).
- 40. An Administered Fund held in Education Services, meets the Examiner and operational delivery costs** (e.g., room hire, casual staff costs). Whilst hitherto it has been possible to generally manage the operational costs, it is difficult to produce a financial forecast of spend on Examiner and operational costs. This is because Faculties and Departments determine the amount of assessment; students have some choice in their enrolment; and the marking load and scheme is determined at local level. However, since the University is transitioning to alternative modes of assessment, the delivery service model remains unstable, preventing the establishment of a defined operating structure and funding model.
- 41. The limitations on availability of space for students with examination adjustments means many are accommodated in College.** In Easter Term 2023, 3,585 candidatures (855 candidates) with adjustments sat examinations in a central venue (Exams Hall, Titan) compared to 3,057 candidatures who sat in College. The EOMC desire to be able to accommodate more in University settings but have been unable to secure the additional and appropriate space. Colleges are increasingly critical of this lack of provision not least because they absorb the costs (arising from staff time, IT provision etc.) These students can also be at a disadvantage if corrections are made (and a subsequent delay in transmission) as well as lack of technical support on site, which is delivered for those in the main venues (Exams Hall, Titan).

F. IMPACT ON EDUCATION AND STUDENT SUPPORT

- 42. Differing modes of assessment** require additional different spaces (as described in D above, paragraphs 30 - 32) and increases the operational complexity, costs, and risks. Currently, the University estate appears not to meet the demand.
- 43. The transition to digital examinations presents multiple challenges.** The shift demands reliable Wi-Fi, ample space, and a steady power supply, adding pressure on existing infrastructure. Larger desks, necessary for accommodating these examinations, reduce overall capacity compared to standard examination arrangements. Moreover, if these desks are not readily available on-site, they pose storage space concerns, further complicating logistical arrangements. Currently, the estate lacks the requisite infrastructure for this transition. Additionally, the listed building status of the majority of University buildings is likely to constrain capacity to meet all the demands.
- 44. Year one of a current pilot of a platform to deliver digital assessment** developed a belief that power provision is required for each candidate to the extent that after an initial sitting the exams were moved from centrally managed spaces with limited power provision to teaching labs with one-to-one power provision. Whilst it is good to use teaching labs for examinations, this is only viable outside of teaching term and current capacity will not be sufficient should all examinations move to a digital platform. The pilot has

evolved to suggest that each venue should provide a power socket for about 10% of the candidates as a minimum.

- 45. With the expanding student numbers and the diversification of assessment, there is a growing need for more space.** This includes accommodating students using digital platforms alongside those sitting traditional modes of assessment. However, meeting these requirements poses a challenge because of the reliance on a limited number of spaces. Due to lack of University accommodation, Colleges are absorbing more students with examination adjustments but the diversification of assessment is adding more resource pressures and increasing the costs for Colleges.
- 46. Year on year, the University sees a rise in students requiring specialised examination arrangements, ranging from typing exams to additional time, rest breaks and low-density spaces.** Some students will have a combination of examination adjustments. The most complex arrangements are often accommodated in College spaces because of a lack of University space. Dedicated areas, such as the Titan Rooms, have been allocated to support students requiring typed exams, some with extra time and/or rest breaks. However, despite a desire and willingness from the EOMC team, they have not been able to identify additional spaces and low-density spaces to accommodate the increasing numbers.
- 47. In addition to providing examination arrangements, there is a desire to accommodate late fallers.** ‘Late fallers’ include those who require adjustments after the deadline for applications has passed. Currently, it is not usually possible to accommodate such students in the central location, which forces them into College. In Easter Term 2024, the EOMC team will trial accommodating late fallers, especially final year students, but the trial is constrained by the limited number of desks available.

G. CASE STUDIES

- 48.** The following case studies attempt to illustrate the challenges the current estate presents. These case studies have drawn on information held by the EOMC team and so the case studies are limited. The departments concerned would have additional comments and perspectives.

a. Professional Examinations

- **The Clinical School has submitted a bid to PBES for enhancements to the infrastructure of University examination spaces to enable the delivery of online examinations.** The paper is stored on the PBES Teams site [here](#).

This paper repeats some of the attributes detailed in paragraph 31 and makes additional request for securely lockable venues (to store hired managed devices). The paper also highlights the need for large examination venues – the clinical cohort is around 300 students. The dates for these examinations are set externally and mostly clash with teaching or the main examination period. To date, the EOMC team have been able to identify suitable space but that restricts use for other examinations.

b. Diversification of Assessment

- **School A wrote to the Pro-Vice Chancellor Education in late 2023 to ask the University to review its current plans and prioritise funding and resources to fast-track the roll-out of a digital assessment platform as soon as possible, to help ensure the integrity of assessment considering the developments in generative AI.**

While there are several factors that mitigate against a fast-tracked roll-out, a key limitation is the lack of suitable space for delivering digital assessment on a larger scale. The total number of digital exams expected to be taken in 2023/2024 is approximately 21,000 (3,600 students taking

4-10 exams each). The departments and faculties in School Y would add an additional 4,100 students and approximately 18,500 exams. It is currently considered that the University estate is not currently capable of accommodating that volume of digital exams.

- **Dept B contacted Education Services in April 2023 to seek the availability of centrally managed space to support diversification of their assessment. The response was muted.**

The department intends to change their undergraduate curriculum and start a new Tripos structure in October 2024. Excited to diversify their modes of assessment, they are keen to introduce a digital poster session. This would mean 30-50 students presenting digital posters in a room in which a cohort of around 150 can circulate, view the posters, and have small group discussions. The department identified they would need flat floor space for 3-4 hours within the normal teaching hours (9am – 5pm) in Easter Term.

In response to the enquiry, the department was advised that centrally managed education spaces might only be available in Week 0 or Week 9 of Easter Term but more choice might be available in the other terms and if they reduced the need to 2-hours and late afternoons.

c. New and existing courses

- **Dept C contacted the EOMC team in December 2023 to seek their support to deliver the following. The availability of space might limit the response.**

In 2024/25 the department will offer a new MPhil. The MPhil will offer four new mandatory modules, two of which will be examined in January by written examination. These modules will be 'borrowed' by the Part III programme, for which they will also be mandatory. Students will also take optional modules to be selected from a range of existing Part III courses. The department seeks central support to deliver the January written examinations.

The department is reviewing an MPhil course and is considering moving from one written examination to eight and seeks central support to deliver those papers.

d. Departments outgrowing space

- **Dept C (in 48c above) is also considering the long-term sustainability of running in house examinations for some of their larger Part III courses. The availability of space might limit the response.**

The department is reviewing the assessment of Part II, with potential modularisation of the examination (opposed to the cross-sectional system currently in use) which would necessarily mean an increase in written examinations to be delivered. The department wishes to understand what the centre might be able to absorb for Part III, to then deliver the intended changes for Part II.

- **Dept D has outgrown the departmental space to accommodate their postgraduate taught examinations and is requesting the centre runs the examinations. The availability of space (as well as resource) might limit the response.**

To date, the department has scheduled and managed the running of its examinations within the department space. However, the growth in student numbers now means that they do not have sufficient space to accommodate their cohort. The department is also requesting that the EOMC team take over the delivery of the examinations.

- **School E was using the pilot digital platform to deliver examinations not scheduled by the EOMC team but did not have sufficient space and sought assistance from the EOMC team who were unable to accommodate the request** – partly because the activity did not fall within the current pilot programme for digital examinations and partly because of lack of space available.

H. RISKS

49. Risks arising from the current space provision are listed below.

- a. Failure to provide the education ambitions for assessment.
- b. Integrity of the examinations, due to lack of secure storage.
- c. Failure to provide adjustments in University spaces.
- d. Operational inefficiencies due to examination materials being scattered across the estate.
- e. Increased operational costs.
- f. Poor examination environment, leading to increase in mitigation and complaints.
- g. Crisis contingency space, where there are particular venues that are relied upon heavily.

I. RECOMMENDATIONS

1. **Before the end of the academic year 2023-24, update the education space performance and technical specifications**, to describe what is required to provide for diverse examination needs, which not only meets the needs of different examination modes but also provides for those with examination adjustments.
2. **Before the end of the academic year 2023-24, develop process to identify diverse examination spaces** that cater for different examination modes (such as standard examinations and digital assessment) and needs for those with examination adjustments (such as low-density rooms). This might require a fit-gap analysis. New requirements include:
 - a. Space and infrastructure to accommodate the expansion of digital assessment.
 - b. Low-density space.
 - c. Venue to accommodate late fallers.
 - d. Additional space to accommodate the current reversion to in-person examinations and for contingency.
 - e. Additional space to accommodate the increase in the number of students with reasonable adjustments and to lift the load off Colleges.
3. **From start of AY 2024-25 start rolling programme of improvement works** to bring on stream sufficient venues to deliver that identified in point 2 above.
4. **For Easter Term 2024, provide space for the Examinations Office** on the New Museums Site.
5. **Consolidate examination storage.**
6. **Update MICAD to include examinations space**, by mode, design, and readiness, to allow detailed reporting on spaces available for all modes to enable better identification and scheduling of spaces.
7. **Universal adoption of Booker** for education spaces and until then access to the GIS map.
8. **Schools to consider the timing and load of examinations**, which might not only minimise the clashes with teaching periods but also reduce the load in Easter Term and so inform revision of Chapter III.

APPENDIX A: EXAMINATION VENUES: LISTED ALPHABETICALLY BY SITE

University Site	Building	Room	Highlighted where used for Digital Assessment in 2022-23
Addenbrooke's	Clinical School	Deakin Centre	
Downing	Dept of Earth Sciences		
	Dept of Geography	Large Lecture Theatre	
		Small Lecture Theatre	
	Genetics Building	Biffen Lecture Theatre	
	Craik Marshall Building	Bioinformatics Training Room	Yes
	Hopkins Building	Laboratory 1 and 2	Yes
		Colman Library	Yes
		Jean Thomas Lecture Theatre	
		Teaching Laboratory	
	Dept of Pharmacology	Laboratory	
	Dept of Pathology	Teaching Lab	Yes
	Dept of Physiology, Development and Neuroscience	Experimental Laboratory	Yes
		Histology	Yes
	Dept of Plant Sciences	Teaching Lab	Yes
New Museums Site	Cockcroft Building	Cockcroft Lecture Theatre	
		Titan Room 1	Yes
		Titan Room 2	Yes
		Titan Room 3	Yes
	David Attenborough Building	Babbage LT	
	Dept of Zoology	Long Wing	Yes
		Short Wing	Yes
	Student Service Centre ²	Exam Halls A - D	
Old Addenbrooke's Site	Biochemistry	Perham Seminar Room	Yes
Old Press	University Centre	Cormack Room	
		Hicks Room	
		Main Dining Hall	
	4 Mill Lane	Syndics Room	

² The Exam Halls will be used for digital assessment in 2023-24, in 2022-23 it accommodated students with exam adjustments.

University Site	Building	Room	Highlighted where used for Digital Assessment in 2022-23
Sidgwick	Lecture Block	Room 1	
		Room 2	
		Room 3	
		Room 4	
		Room 5	
		Room 6	
		Room 7	
		Room 8	
		Room 9	
		Room 10	
		Room 11	
		Room 12	
	Little Hall	Little Hall	
	Lady Mitchell Hall	Lady Mitchell Hall	
	Institute of Criminology	Seminar A (B4)	
		Seminar B (B3)	
	Faculty of Divinity	Lecture Room 2	
		Lecture Room 3	
		Runcie Room	
	Faculty of English	GR04	Yes
		GR05	Yes
		GR06	Yes
		GR07	Yes
	Faculty of Law	B16	
		G24	
		G28	
		LG17	
		LG18	
		LG19	
	Faculty of Music	Auditorium	
		Recital Room	
South Cambridge	Dept of Chemistry		
	Dept of Engineering		
	Judge Business School	Lecture Theatre 3	

University Site	Building	Room	Highlighted where used for Digital Assessment in 2022-23
West Cam	Centre for Mathematical Sciences		
	Dept of Chemical Engineering & Biotechnology	Lecture Theatre 1	
		Lecture Theatre 2	
		Lecture Theatre 3	
	Dept of Physics		
	Institute for Manufacturing		
	Dept of Materials Science and Metallurgy		
	Roger Needham	Norwich Room	
	Sports Centre	Sports Hall	
	Sports Centre	Sports Hall Studio	
	West Hub	East 1	
		East 2	
		South Room	
		West 1	
		West 2	
	Veterinary Medicine		

External Provider	Building
Various Colleges	Chapel
Robinson College	Crausaz Wordsworth Building
Pembroke College	Pembroke Auditorium Old UR Church
Cambridge City Council	Corn Exchange Auditorium
Cambridge City Council	Guildhalls – Large Hall
Cambridge City Council	Guildhalls – Small Hall

APPENDIX B: EXAMINATION VENUES & DIGITAL ASSESSMENT: LISTED ALPHABETICALLY BY SITE

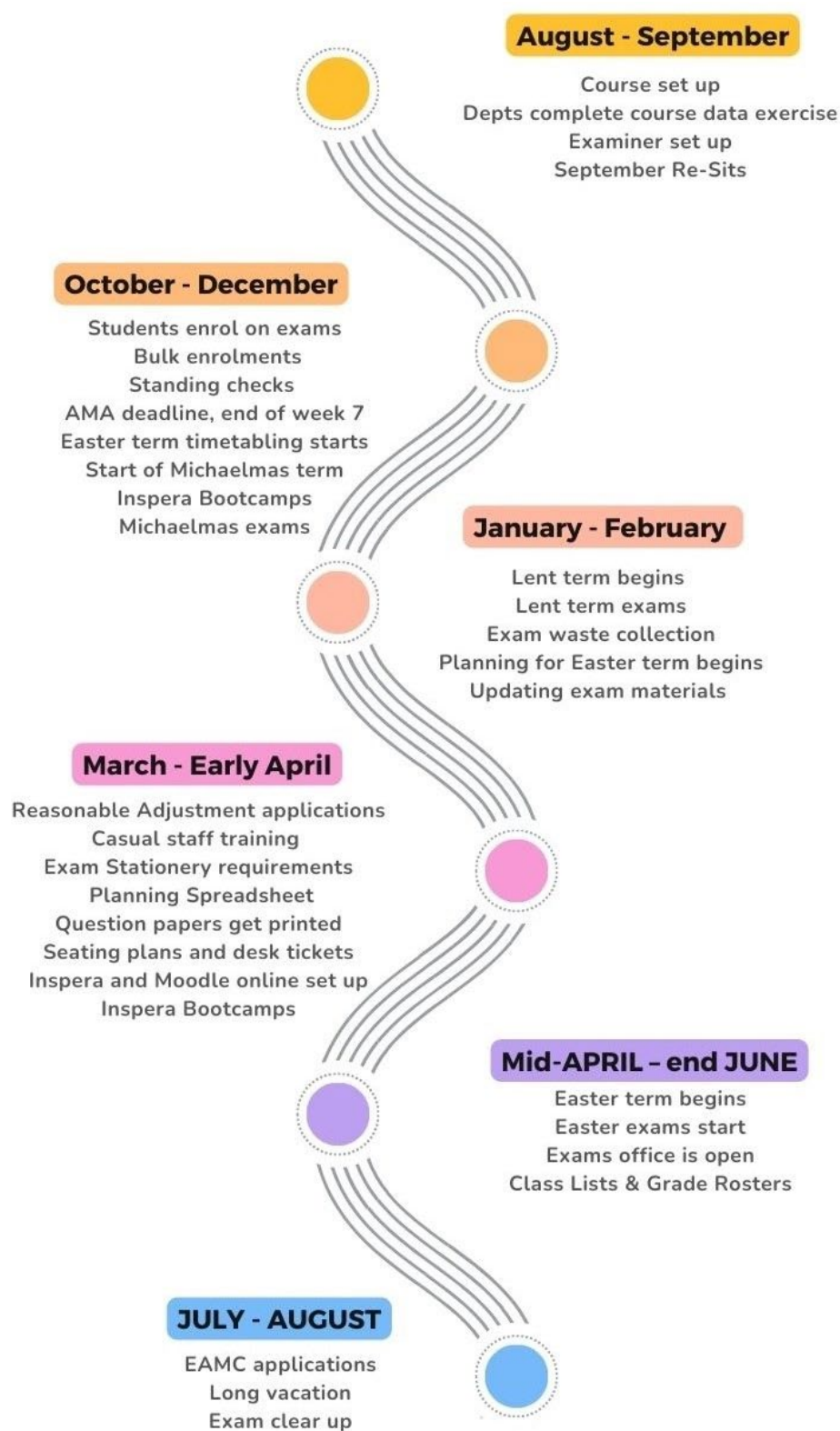
University Site	Building	Room	Wi-Fi	N°. Sockets	Comments
Addenbrooke's	Clinical School	Deakin Centre	Unknown	Unknown	
Downing	Dept of Earth Sciences		Unknown	Unknown	
	Dept of Geography	Large Lecture Theatre	Yes	Unknown	
		Small Lecture Theatre	Unknown	Unknown	
	Genetics Building	Biffen Lecture Theatre	Yes	40	In front few rows
	Craik Marshall Building	Bioinformatics Training Room	Yes	28	Floor sockets
	Hopkins Building	Laboratory 1 and 2	Yes	264	74 not so accessible
		Colman Library	Yes	Unknown	
		Jean Thomas Lecture Theatre	Unknown	20	Sockets not so accessible
		Teaching Laboratory	Yes	Unknown	
	Dept of Pathology	Teaching Lab	Yes	288	All accessible
	Dept of Pharmacology	Laboratory	Unknown	Unknown	
	Dept of Physiology, Development and Neuroscience	Experimental Laboratory	Yes	50	
		Histology	Yes	56	
	Dept of Plant Sciences	Teaching Lab	Yes	96	Limited Wi-Fi, all sockets accessible
New Museums Site	Cockcroft Building	Cockcroft Lecture Theatre	Yes	6	In front few rows
		Titan Room 1	Yes	Unknown	
		Titan Room 2	Yes	Unknown	
		Titan Room 3	Yes	Unknown	
	David Attenborough Building	Babbage LT	Unknown	26	Most sockets on stage
	Dept of Zoology	Long Wing	Yes	164	
	Dept of Zoology	Short Wing	Yes	44	
	Student Service Centre	Exam Halls A - D	Yes	Not counted	Evenly distributed floor boxes
Old Addenbrooke's Site	Biochemistry	Perham Seminar Room	Yes	Unknown	
Old Press	University Centre	Cormack Room	Yes	Unknown	
		Hicks Room	Yes	Unknown	
		Main Dining Hall	Yes	Unknown	

University Site	Building	Room	Wi-Fi	N°. Sockets	Comments
	4 Mill Lane	Syndics Room	Unknown	Unknown	
Sidgwick	Lecture Block	Room 1	Yes	Yes	Limited wall sockets
		Room 2	Yes	Yes	Limited wall sockets
		Room 3	Yes	Yes	Limited wall sockets
		Room 4	Yes	Yes	Limited wall sockets
		Room 5	Yes	Yes	Limited wall sockets
		Room 6	Yes	Yes	Limited wall sockets
		Room 7	Yes	Yes	Limited wall sockets
		Room 8	Yes	Yes	Limited wall sockets
		Room 9	Yes	Yes	Limited wall sockets
		Room 10	Yes	Yes	Limited wall sockets
		Room 11	Yes	Yes	Limited wall sockets
		Room 12	Yes	Yes	Limited wall sockets
	Little Hall	Little Hall	Unknown	Unknown	
	Lady Mitchell Hall	Lady Mitchell Hall	Unknown	Unknown	
	Institute of Criminology	Seminar A (B4)	Unknown	16	Floor sockets
	Institute of Criminology	Seminar B (B3)	Unknown	20	Floor sockets
	Faculty of Divinity	Lecture Room 2	Yes	26	Evenly distributed Floor sockets
		Lecture Room 3	Yes	30	Evenly distributed Floor sockets
		Runcie Room	Unknown	18	2 Floor sockets (front and back)
	Faculty of English	GR04	Yes	24	12 Floor Sockets (front) 12 Floor Sockets (back)
		GR05	Yes	24	12 Floor Sockets (front) 12 Floor Sockets (back)
		GR06	Yes	48	Evenly distributed Floor sockets
		GR07	Yes		
	Faculty of Law	B16	Unknown	6	1 Floor box, double socket on back wall
		G24	Unknown	7	3 double wall sockets, 1 single
		G28	Unknown	9	Evenly distributed Floor sockets
		LG17	Yes	Unknown	

University Site	Building	Room	Wi-Fi	N°. Sockets	Comments
		LG18	Yes	42	In front few rows
		LG19	Yes	54	In front few rows
		Auditorium	Unknown	Unknown	
	Faculty of Music	Recital Room	Unknown	Unknown	
South Cambridge	Dept of Chemistry		Unknown	Unknown	
	Dept of Engineering		Unknown	Unknown	
	Judge Business School	Lecture Theatre 3	Unknown	Unknown	
West Cam	Centre for Mathematical Sciences		Unknown	Unknown	
	Dept of Chemical Engineering & Biotechnology	Lecture Theatre 1	Unknown	Unknown	
		Lecture Theatre 2	Unknown	Unknown	
		Lecture Theatre 3	Unknown	Unknown	
	Dept of Physics		Unknown	Unknown	
	Institute for Manufacturing		Unknown	Unknown	
	Dept of Materials Science and Metallurgy		Unknown	Unknown	
	Roger Needham	Norwich Room	Yes	Unknown	
	Sports Centre	Sports Hall	Poor	12	Limited wall sockets
	Sports Centre	Sports Hall Studio	Poor	12	Limited wall sockets
	West Hub	East 1	Yes	47	Majority floor sockets (right side of room)
	West Hub	East 2	Yes	49	Majority floor sockets (left side of room)
	West Hub	South Room	Yes	Unknown	
	West Hub	West 1	Yes	35	Mainly floor sockets
	West Hub	West 2	Yes	31	Mainly floor sockets
	Veterinary Medicine		Unknown	Unknown	

External Provider	Building	Digitally Ready
Various Colleges	Chapel	No
Robinson College	Crausaz Wordsworth Building	No
Pembroke College	Pembroke Auditorium Old UR Church	Unknown
Cambridge City Council	Corn Exchange Auditorium	No
Cambridge City Council	Guildhalls – Large Hall	No
Cambridge City Council	Guildhalls – Small Hall	No

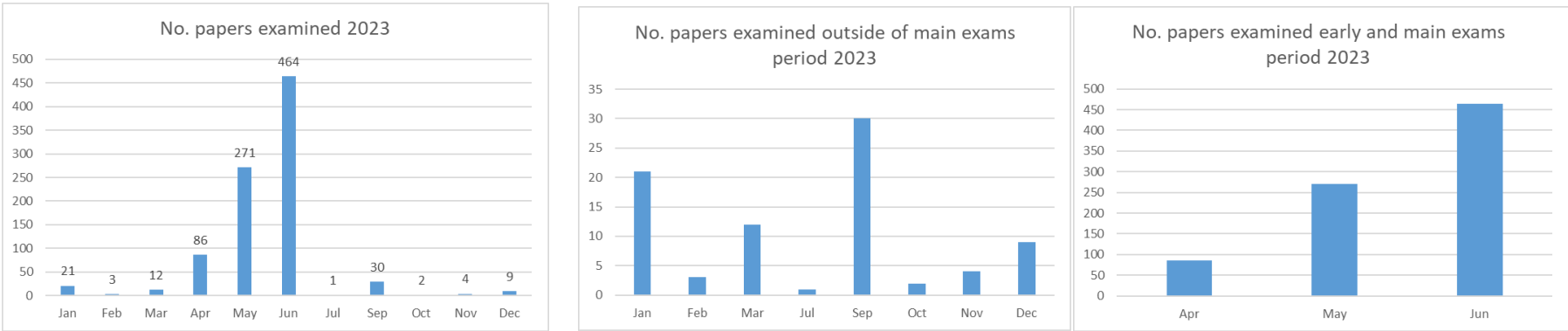
APPENDIX C: ANNUAL EXAMINATION WORK SCHEDULE



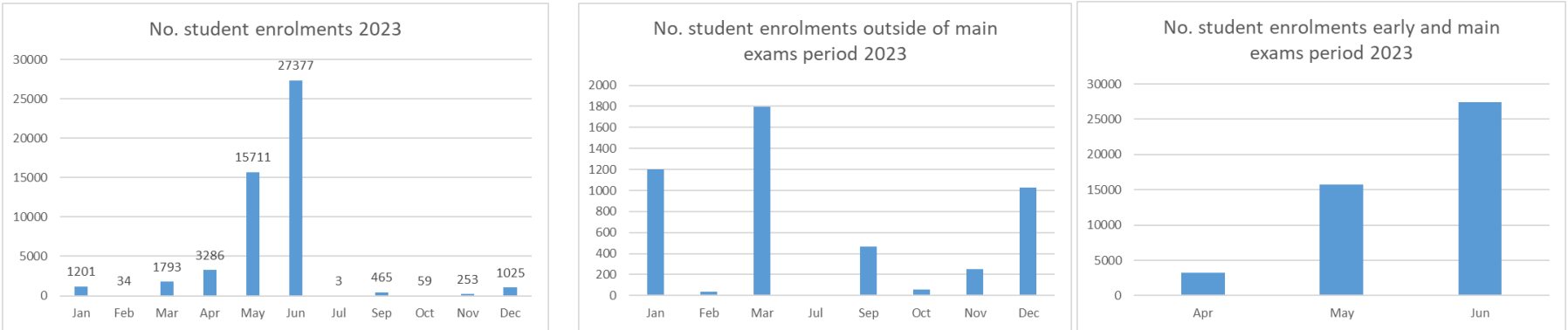
APPENDIX D: EXAMINATION DATA ON LOAD AND TIMING

The following charts relate to in-person examinations sat in 2023 in the main examination venues. The charts do not represent all assessment and exclude venues used for students with examination adjustments.

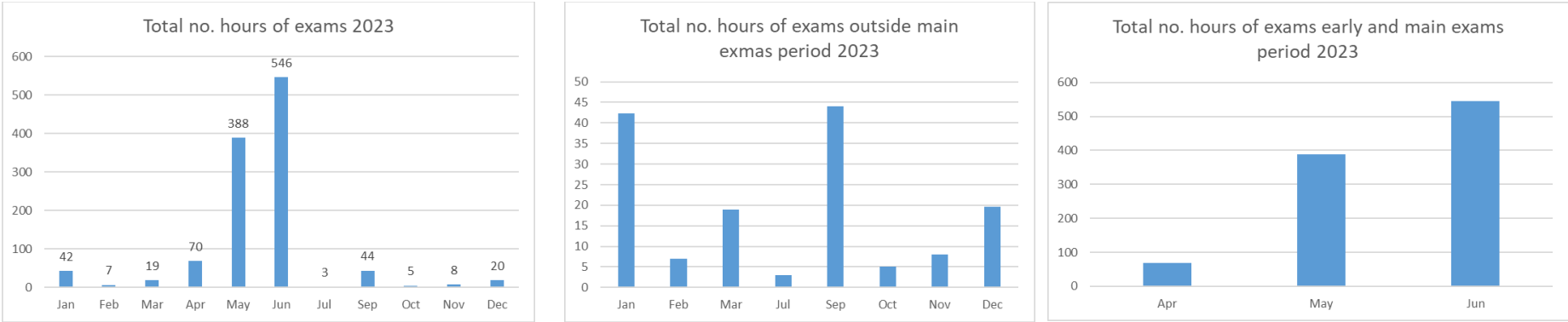
The following three charts provide the number of papers examined in 2023, narrowing down to the main examination period in Easter Term



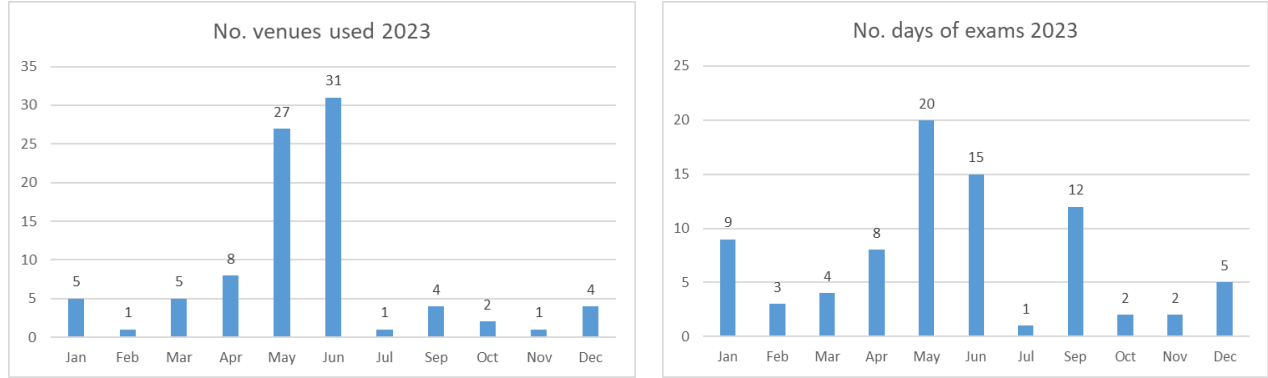
These three charts provide the number of enrolments in 2023, narrowing down to the main examination period in Easter Term



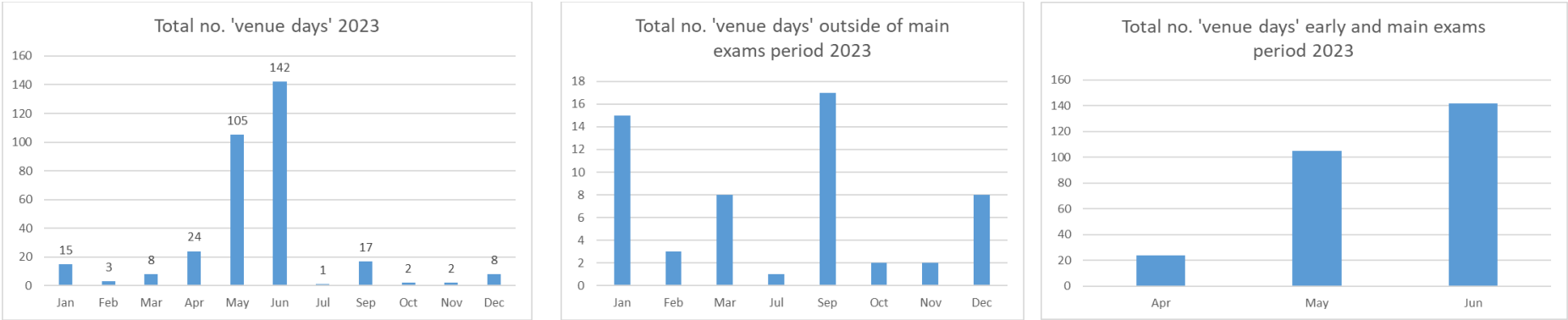
The charts below provide the number of hours examinations were scheduled into venues in 2023, narrowing down to the main examination period in Easter Term



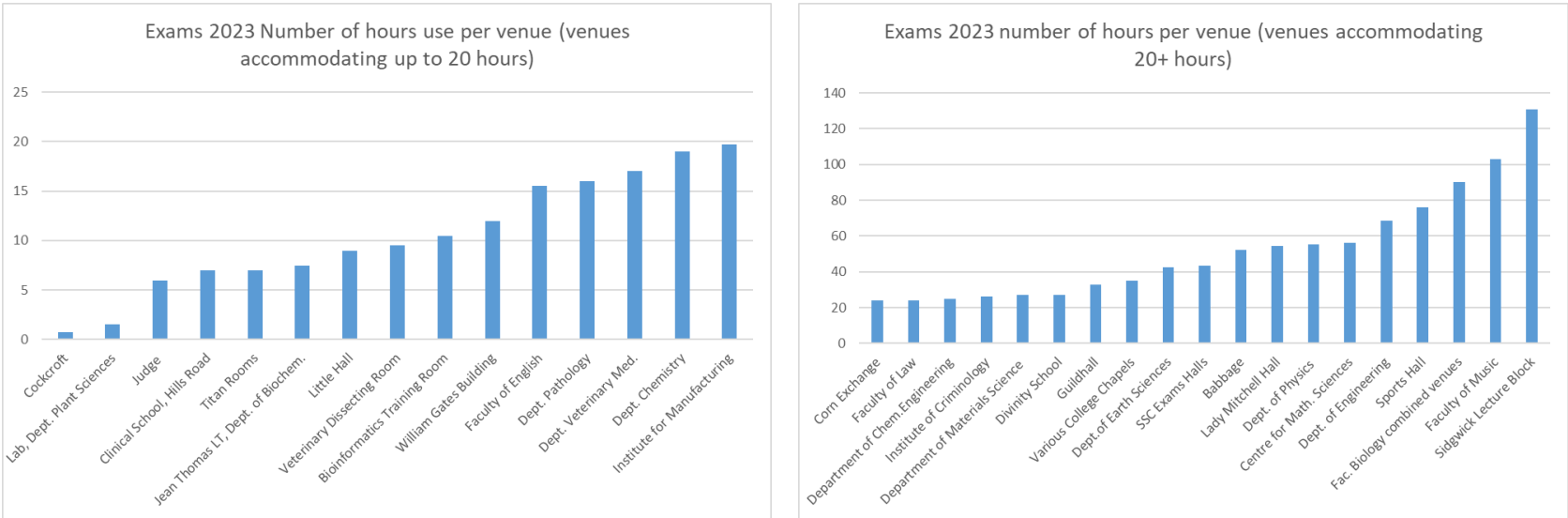
The following charts provide the number of venues used for examinations in 2023 and the number of days of examinations



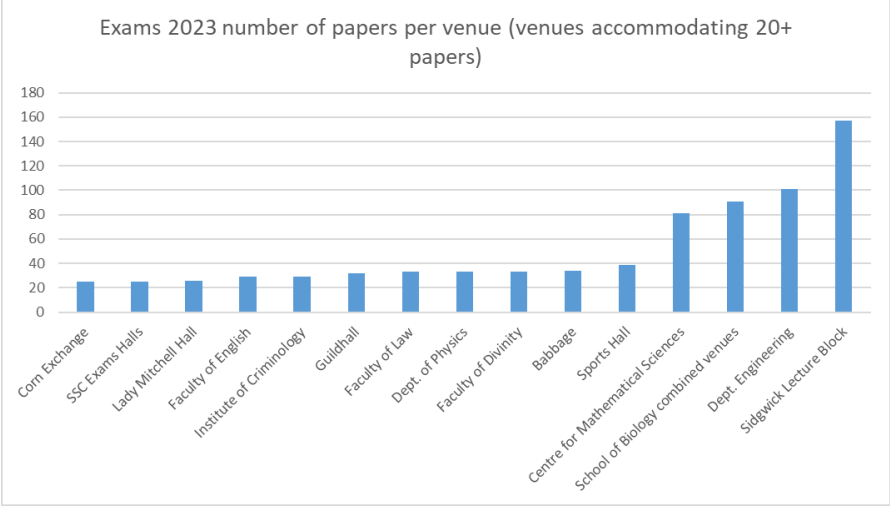
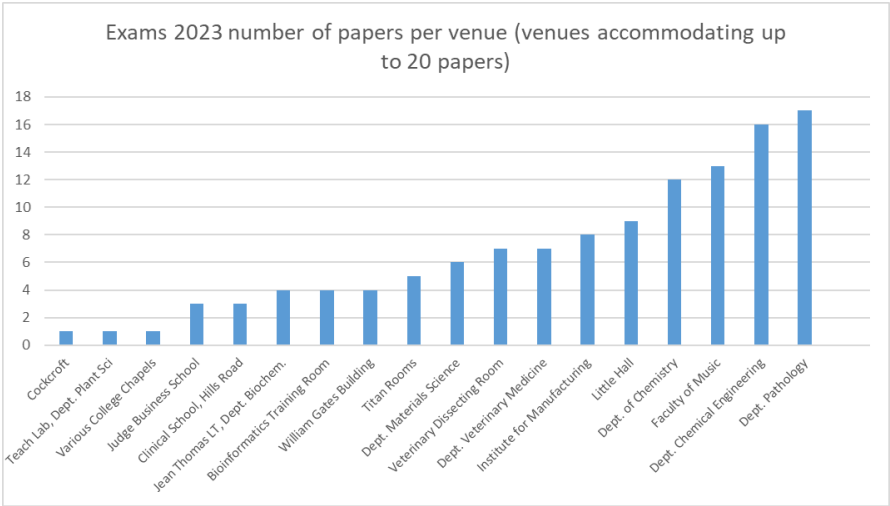
The charts below display the total count of venue days, indicating the sum of number of days use of each venue.



The following charts show the number of hours used in each venue for examinations in 2023.



The following charts show the number of papers accommodated in each venue for examinations in 2023.



The charts below show the number of enrolments per venue for examinations in 2023.

