CAMBRIDGE UNIVERSITY REPORTER

No 6516 Wednesday 25 July 2018 Vol cxlviii No 40

CONTENTS

Notices		Industrial Systems, Manufacture,	
Calendar	838	and Management	857
Discussion on Tuesday, 9 October 2018	838	Machine Learning and Machine Intelligence	858
Amending Statutes for St John's College	838	Nuclear Energy	858
Amending Statutes for Trinity College	838	Examinations for the M.Res. Degree, 2018–19:	
The Leslie Stephen Lecture: 15 October 2018	838	Future Infrastructure and Built Environment	859
Preacher at Mere's Commemoration	838	Gas Turbine Aerodynamics	860
Members of the Council in class (e) (external)	839	Graphene Technology	861
Topic of concern to the University,	037	Integrated Photonic and Electronic Systems	861
Hobson's Brook: Notice in response to		Sensor Technologies and Applications	862
Discussion remarks	839	Ultra Precision Engineering	863
Amendment to Grace 1 of 27 June 2018		Reports	
(Faculty membership criterion) for		Joint Report of the Council and the	
submission to the Regent House under		General Board on amendments to	
Special Ordinance A (i) 5: Notice in response	840	Special Ordinance D (v) concerning	0.64
Anti-slavery and Anti-trafficking statement		precautionary action	864
and policy	840	Class-lists	
Procedure for Handling Cases of Student		Approved for degrees	864
Harassment and Sexual Misconduct	841	Graces	
Consultation on Discussions: comments		Graces submitted to the Regent House	
by 31 October 2018	842	on 25 July 2018	867
Honorary Degree Committee: Call for nominations	843	Acta	
Publication of <i>Statutes and Ordinances</i> , 2018	843	Degree of Bachelor of Medicine	867
Vacancies, appointments, etc.		Degree of Bachelor of Surgery	868
Appointments, reappointments, and grants of title	844	Congregation of the Regent House	
Vacancies in the University	844	on 28 June 2018: Correction	869
-	011	Congregation of the Regent House	
Notices by the General Board	845	on 30 June 2018: Correction	869
Appointment of Heads of Departments	643	Congregation of the Regent House	
Regulations for examinations	0.46	on 20 July 2018	870
History and Modern Languages Tripos	846	Congregation of the Regent House	
Master of Philosophy by Advanced Study;	0.40	on 21 July 2018	878
Bachelor of Medicine and Bachelor of Surgery	849		
Advanced Diploma in Research Theory and		End of the Official Part of the 'Reporter'	
Practice in English (Engineering or Business	0.40	Report of Discussion	
Management)	849	Tuesday, 17 July 2018	885
Diplomas and Certificates open to non-members	0.50	College Notices	000
of the University	850	Awards and Prizes	885
Language Centre CULP Awards	850	Elections	885
Notices by Faculty Boards, etc.		Vacancies	885
Historical Tripos, 2020: subjects and periods	851	vacancies	003
Human, Social, and Political Sciences Tripos,			
Part II, 2018–19	852		
Examinations for the M.Phil. Degree, 2018–19:		UNIVERSITY ()E
Bioscience Enterprise	854	ENTERNAL UNIVERSITION	JI
Biotechnology	855		ידר
Energy Technologies	855	CAMBRIDO	JĽ
Engineering for Sustainable Development	856	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	



NOTICES

Calendar

- 1 October, *Monday*. Michaelmas Term begins. Congregation of the Regent House at 9.30 a.m.: Vice-Chancellor's address, and the election and admission of the Proctors.
- 2 October, Tuesday. Full Term begins.

This is the last ordinary issue of the *Reporter* for the 2017–18 academical year. The first ordinary issue of the 2018–19 academical year will be published on 26 September 2018.

Discussion on Tuesday, 9 October 2018

The Vice-Chancellor invites those qualified under the regulations for Discussions (*Statutes and Ordinances*, p. 105) to attend a Discussion in the Senate-House, on Tuesday, 9 October 2018 at 2 p.m., for the discussion of:

- 1. Report of the Council, dated 16 July 2018, on the period of membership of external members of the Council (*Reporter*, 6515, 2017–18, p. 833).
- 2. Joint Report of the Council and the General Board, dated 23 July and 11 July 2018, on amendments to Special Ordinance D (v) concerning precautionary action (p. 864).

Further information on Discussions, including details on format and attendance, is provided at https://www.governance.cam.ac.uk/governance/decision-making/discussions/.

Amending Statutes for St John's College

23 July 2018

The Vice-Chancellor gives notice that he has received from the Governing Body of St John's College, in accordance with the provisions of Section 7(2) of the Universities of Oxford and Cambridge Act 1923, the text of proposed Statutes to amend the Statutes of the College. The current Statutes of the College and the amending Statutes are available on the College's website:

http://intranet.joh.cam.ac.uk/statutes

https://www.joh.cam.ac.uk/sites/default/files/inline-files/Amending Statute for Website 0.pdf

Paper copies may be inspected at the University Offices until 10 a.m. on 10 August 2018.

Amending Statutes for Trinity College

23 July 2018

The Vice-Chancellor gives notice that he has received from the Governing Body of Trinity College, in accordance with the provisions of Section 7(2) of the Universities of Oxford and Cambridge Act 1923, the text of proposed Statutes to amend the Statutes of the College. The current Statutes of the College and the amending Statutes are available on the College's website:

https://share.trin.cam.ac.uk/sites/public/Senior_Bursary/statuteswith2009amendments.pdf https://www.trin.cam.ac.uk/proposed-amending-statutes-may-2018/

Paper copies may be inspected at the University Offices until 10 a.m. on 10 August 2018.

The Leslie Stephen Lecture: 15 October 2018

The Vice-Chancellor reminds members of the University that Sir Simon Schama, Honorary Fellow of Christ's College and University Professor of Art History and History, Columbia University, will deliver the next Leslie Stephen Lecture in the Senate-House at 5.30 p.m. on Monday, 15 October 2018. His lecture title will be: *Liberalism, populism, and the fate of the world*.

Preacher at Mere's Commemoration

The Vice-Chancellor gives notice that Professor Janet Soskice, Fellow of Jesus College and Professor of Philosophical Theology, has been appointed as Preacher at the annual Commemoration of John Mere, to be held in St Benedict's Church at 11.45 a.m. on Tuesday, 23 April 2019.

Members of the Council in class (e) (external)

- 1. Under the regulations for the appointment of members of the Council in class (*e*) (*Statutes and Ordinances*, p. 113), the Council, on the recommendation of the Proctors and the Deputy Proctors, has appointed Ms Sara Weller, a serving member of the Council in class (*e*), to chair the Nominating Committee for the current period.
 - 2. The other members of the Nominating Committee are:

The Vice-Chancellor
Dr Nick Bampos, *TH*Professor Dame Carol Black, *N*Dr Stephen Cowley, *EM*Dr David Secher, *CAI*Professor Anthony Green, *Q*Dr Rachael Padman, *N*

The Registary is Secretary to the Committee.

- 3. There are four members of the Council in class (e). External members are appointed for terms of four years. Mr John Shakeshaft was appointed to serve a second four-year term in January 2015 and is not eligible for reappointment. One place will therefore be vacant from 1 January 2019. The appointment would be for an initial period until 31 December 2022, potentially renewable for another full term of four years. Professor Sir David Greenaway, Mr Mark Lewisohn, and Ms Sara Weller are the other current external members of the Council. Mr Shakeshaft is the Deputy Chair of the Council, Mr Lewisohn chairs the Audit Committee, and Ms Weller chairs the Remuneration Committee.
- 4. Applications are sought from individuals who have held senior leadership posts within organizations of significant scale and complexity and who can demonstrate relevant experience, ideally to include financial management. A demonstrable commitment to, or interest in, education and research is important. An international perspective and experience of varying forms of organizational governance would be desirable but not essential.
- 5. Cambridge is seeking to encourage greater diversity throughout the institution, at all levels. This is equally a priority in the governance of the University, and hence a key aim in this appointment. Candidates will demonstrate alignment with the values of a university and its positive role and function in society through its education, research, and translation activity.
- 6. The appointment is as a charity trustee and does not carry any remuneration. Reasonable travel and other expenses incurred can be claimed.
- 7. External members of the Council are expected to attend all Council meetings (up to eleven ordinary and two strategic meetings per year) and to serve on two to three committees, as chair or member, throughout the academical year. The successful candidate will also need to spend some time getting to know the collegiate University, attending background briefings and/or informal University and College events. Information about the work of the Council and the University's governance arrangements is available at: http://www.governance.cam.ac.uk.
- 8. The Nominating Committee has engaged Perrett Laver as search advisers. Appointment details can be downloaded from their website at https://candidates.perrettlaver.com/vacancies/, quoting reference 3672, and applications should be made to them by 12 noon on 3 September 2018.
- 9. Those wishing to make suggestions about suitable candidates should provide information to the Registrary by the same date stating why they believe that the person suggested would be particularly suitable for this role.
- 10. Any enquiries may be made to the Registrary (Emma.Rampton@admin.cam.ac.uk) or to the Head of the Registrary's Office (Regina.Sachers@admin.cam.ac.uk).

Topic of concern to the University, Hobson's Brook: Notice in response to Discussion remarks

23 July 2018

The Council has received the remarks made at the Discussion on 20 February 2018 (*Reporter*, 6497, 2017–18, p. 429) regarding the topic of concern to the University on Hobson's Brook (*Reporter*, 6494, 2017–18, p. 378). It apologizes for the delay in providing this response, which has been prepared following consultation with the Estates Strategy Committee and after researching the University's interests in the Hobson's Brook corridor.

Several speakers at the Discussion noted their belief that the University's consent for the proposed bridge was required under the terms of a lease of part of the Hobson's Brook corridor dating from 1610. That lease describes the downstream extent of its demise as being the boundary between the borough of Cambridge and the parish of Trumpington. An 1804 Inclosure Map of Trumpington shows Empty Common, the location of the proposed bridge, as being outside of Trumpington parish and therefore outside of the demise of the lease. The Inclosure Act of 1807 gave the University a right to take an action in trespass in respect of this section of Hobson's Brook, notwithstanding an absence of legal interest in the land. In the event that the University took such action, it is anticipated that at best nominal damages would be awarded, which would be exceeded by the costs of bringing legal action; the University does not have the right under the Indenture Act to seek an injunction to prevent the building of the bridge.

In the course of the Discussion reference was made in passing to the rights of Trinity College in this matter. The College has the benefit of a restrictive covenant affecting the Common. The University is not in a position to comment on the enforceability of the College's rights or its willingness to enforce such rights as it has.

The Council notes the Estates Strategy Committee's assessment of the anticipated impact of the works. The ecological impact of the bridge itself is expected to be minimal. The impact of increased footfall on the wider corridor, which is recognized as an area of national ecological importance, is harder to assess. Relocation of existing Granta Backbone Network links is expected to be no more disruptive than similar works in other parts of the city.

Given the University's position, the Estate Management Division has been asked to confirm to Cambridge City Council that the proposed bridge is considered to fall outside the demise of the 1610 lease, and as such the University's consent is not required. Several speakers indicated interests as local residents and neighbouring land-owners and therefore the Council has asked Estate Management to direct Cambridge City Council to the report of the Discussion for information on their views.

Amendment to Grace 1 of 27 June 2018 (Faculty membership criterion) for submission to the Regent House under Special Ordinance A (i) 5: Notice in response

23 July 2018

Further to the Council's Notice published on 11 July 2018 (*Reporter*, 6514, 2017–18, p. 798), the Council has now considered the proposed amendment to Grace 1 of 27 June 2018 and has agreed to submit the amendment. The proposed amendment will be included as an option on which members of the Regent House will be asked to vote in the forthcoming ballot in the Michaelmas Term 2018 (*Reporter*, 6512, 2017–18, p. 728), the timetable for which is reproduced below. The ballot on Grace 1 of 27 June 2018 shall be held in accordance with the Single Transferable Vote regulations (*Statutes and Ordinances*, p. 115).

Timetable for the ballots

There shall be separate but concurrent ballots on Grace 1 of 27 June 2018 and the proposed amendment to it, and on Grace 1 of 18 April 2018. In connection with these ballots the Registrary will arrange for the circulation of any fly-sheet, signed by ten or more members of the Regent House, which reaches her by 1 p.m. on Thursday, 4 October 2018. Fly-sheets must bear, in addition to the signatures, the names and initials (in block capitals) of the signatories (*Statutes and Ordinances*, p. 110). Documents which are submitted by fax to 01223 (3)32332 or scanned or photographed documents containing a signature sent to the Registrary at Registrary@admin.cam.ac.uk will also be accepted. Online voting will open at 10 a.m. on Monday, 15 October 2018 and close at 5 p.m. on Thursday, 25 October 2018; fly-sheets will be available online. Hardcopy voting papers and fly-sheets will be distributed not later than Monday, 15 October 2018 to those who opted by 2 November 2017 to vote on paper; the last date for the return of voting papers will be 5 p.m. on Thursday, 25 October 2018.

Anti-slavery and Anti-trafficking statement and policy

23 July 2018

The Council has approved a statement and policy affirming the University's commitment to combatting slavery and human trafficking, in accordance with Section 54(1) of the Modern Slavery Act 2015. The statement and policy are available at https://www.registrarysoffice.admin.cam.ac.uk/governance-and-strategy/anti-slavery-and-anti-trafficking.

Anti-slavery and Anti-trafficking statement for the financial year ending 31 July 2017 (pursuant to Section 54(1) of the Modern Slavery Act 2015)

The University of Cambridge is a common law corporation and is an exempt charity under the Charites Act 2011. The University consists of academic Schools, Faculties and Departments, libraries and other collections, administrative departments and, for the purposes of this statement, includes its wholly owned companies. Its mission is to contribute to society through the pursuit of education, learning, and research at the highest international levels of excellence.

The University is committed to combatting slavery and human trafficking and to acting with integrity in all its relationships. It has implemented an Anti-slavery and Anti-trafficking policy reflecting this commitment (viewable at https://www.registrarysoffice.admin.cam.ac.uk/governance-and-strategy/anti-slavery-and-anti-trafficking). To ensure compliance with this commitment, the University has revised its standard procurement and contract documentation which now contain warranties to this effect which suppliers and contractors must accept wherever possible. The University's dignity@work, equal opportunities, and whistleblowing policies are additional mechanisms which support the combat of modern slavery (see http://www.hr.admin.cam.ac.uk/policies-procedures).

Although committed to carrying out proper due diligence, as a higher education institution the University considers the risk of modern slavery to be low due to the nature of its limited supply chains apart from Cambridge University Press, a department of the University providing publishing services, which has different supply chains and has consequently developed its own anti-slavery measures (see http://www.cambridge.org/about-us/legal-notices/anti-slavery-and-human-trafficking/).

The University has not received any reports of instances of modern slavery over the past financial year but will continue to raise awareness of modern slavery and of the need for proper due diligence and risk assessment processes to be applied by staff and suppliers, in accordance with its policy.

This annual statement was approved by the Council on 23 July 2018.

Anti-slavery and Anti-trafficking policy

Modern slavery encompasses slavery, forced and compulsory labour, and human trafficking whereby individuals are deprived of their freedom and are exploited for commercial or personal gain as enacted in the Modern Slavery Act 2015 ('the Act'). The University is committed to a zero tolerance approach to modern slavery and to acting with integrity in all its dealings, relationships, and supply chains. It expects the same high standards from all its staff, suppliers, contractors, and those with whom it does business. This policy applies to all employees, workers, consultants, and other persons doing business with the University including all its wholly owned companies, contractors, and suppliers.

The University acknowledges the risk that a supply chain may involve the use of a hidden or unknown subcontractor reliant on forced labour. Although the University as a higher education institution¹ considers the risk of modern slavery to be low due to the nature of its supply chains, it takes its responsibilities to combat modern slavery seriously as demonstrated by its promotion and adoption of the following policy measures:

- The prevention, detection, and reporting of modern slavery in any part of its business or supply chains is the responsibility of all those working for the University or under its control.
- Appropriate due diligence processes must be carried out in relation to modern slavery which may include
 considering human rights in a sector or country, the type of sector in which a service provider operates, the
 countries from which services are provided, the nature of relationships with suppliers, and the complexity of
 supply chain(s).
- All supply chain lines need to be continually risk assessed and managed in relation to modern slavery and any high-risk suppliers audited.
- The University encourages anyone to raise any concerns about modern slavery and will support anyone who acts in good faith. The University has a whistleblowing policy which can be used to report any instances of modern slavery, which was updated in 2017 (http://www.admin.cam.ac.uk/offices/hr/policy/whistleblowing.html).
- The University has dignity@work and equal opportunities policies (see https://www.hr.admin.cam.ac.uk/policies-procedures/dignity-work-policy and https://www.hr.admin.cam.ac.uk/policies-procedures/equal-opportunities-policy) and is committed to upholding human rights.
- The University's Anti-slavery and Anti-trafficking statement is published annually on the Registrary's Office website at https://www.registrarysoffice.admin.cam.ac.uk/governance-and-strategy/anti-slavery-and-anti-trafficking.
- The University will continue to develop its commitment to combat modern slavery and will provide staff training where appropriate.

In relation to the University's procurement activities, the following actions have been implemented in 2017–18 or are in the process of being implemented, for completion in 2018–19:

- 1. Amendments to the trade supplier portal (Intend) to question potential new suppliers on their compliance with the Act. The obligation will be on potential new suppliers to confirm their compliance; failure to confirm compliance will result in exclusion from the list of approved trade suppliers.
- 2. Review and updating of all procurement documentation to include references to the Act.
- 3. Amendments to the trade supplier approval process so that the University's Procurement Office reviews all new and amended suppliers and re-activation requests, with confirmation of compliance recorded as part of that process.
- Provision of information on the obligations under the Act to Departments, Faculties, and other institutions using existing communication channels.
- 5. Development of an online training tool on the Act, to be included in the induction materials for new employees and as part of ongoing training for existing employees.
- Development and circulation of a questionnaire on compliance to trade suppliers.

Any breaches of this policy may result in the University taking disciplinary action against individual(s) and/or terminating its relationship with any organization or supplier.

This policy is managed by the Registrary's Office and was approved by the Council on 23 July 2018.

¹ Cambridge University Press, a department of the University providing publishing services, has different supply chains and has consequently developed its own anti-slavery measures; see http://www.cambridge.org/about-us/legal-notices/anti-slavery-and-human-trafficking/. Cambridge Assessment has its own policies on whistleblowing, on equality and dignity at work, and its own procurement procedures.

Procedure for Handling Cases of Student Harassment and Sexual Misconduct

23 July 2018

With effect from 1 October 2018

The Council, on the recommendation of the General Board, has approved some minor changes to the Procedure for Handling Cases of Student Harassment and Sexual Misconduct (*Statutes and Ordinances*, p. 218), following a review of this and related procedures (see also the Report on p. 864). The review considered the experience of both the complainant and the respondent when using the procedure. There is no specified timeframe for a complaint under the University's disciplinary procedure, and therefore the three-month timeframe for complainants to raise a complaint under paragraph 6.1.3 of the procedure reduces the options open to the complainant and respondent for limiting their interaction using the procedure. It was noted that in any case this timeframe could currently be waived by the Head of the Office of Student Conduct, Complaints, and Appeals, and in practice the time limit was routinely set aside. Paragraph 6.1.3 has therefore been removed and the remaining paragraphs renumbered. The procedure has also been renamed the Procedure on Student Harassment and Sexual Misconduct.

Consultation on Discussions: comments by 31 October 2018

This Notice proposes options for changes to the arrangements for Discussions, which are being put forward by the Governance Review Working Group for consultation. Comments are invited by **Wednesday**, 31 October 2018, and should be sent by email to consultationresponses@admin.cam.ac.uk.

The current position

Discussions are an important element of the University's governance process. Reports published in the *Reporter* give notice of major changes in University policy. For those not involved in the development of the plans set out in the Report or their approval by committees, the publication of the Report may be the first sight of the proposals for change. A Discussion enables any member entitled to attend and speak to make comments on a Report. The Discussion therefore plays a key role in providing a sense-check on the proposals contained in the Report, giving an opportunity to raise concerns about the impact of those changes or points that might have been overlooked. Reports are published on behalf of a body with a right of reporting to the University, and therefore there is no expectation that that body will be able to respond to the remarks during the Discussion. The Council is required to consider the remarks and publish 'such response as it sees fit' prior to the submission of any Grace seeking approval of the recommendations of the Report (which might be altered in light of the remarks made).

The main provisions governing the arrangements for Discussions are set out in Sections 2–4 of Special Ordinance A (i), in the regulations for Discussions, and Graces and Congregations, and in a Notice published by the Council concerning Discussions and Fly-sheets (*Statutes and Ordinances*, pp. 65, 105, 105, and 110).

Those entitled to attend and speak include members of the Senate and the Regent House, and student members, and no notice is required to exercise those rights. Those entitled to make remarks need not attend in person and instead can ask the Proctors or another person attending to read out their comments at the Discussion, ideally giving at least 2 hours' notice.

Reports are published in the *Reporter*, usually on a Wednesday, and Discussions generally take place at 2 p.m. on certain Tuesdays during term in the Senate-House. Reports are placed on the agenda of a Discussion taking place at least thirteen days after the Report's publication date. A report of the remarks made is normally published in the *Reporter* on the second Wednesday following the Discussion.

The Discussion is chaired by a Deputy Vice-Chancellor, who is a member of the Regent House; included in the current list are Heads of Colleges and the Pro-Vice-Chancellors.² Discussions are also usually attended by two Proctors, the Registrary or a deputy (usually the University Draftsman), a member of the Registrary's Office, and the Senate-House Keeper.

Issues identified

Whilst there is no wish to remove the ability to hold a meeting for the discussion of a Report, it is not uncommon for there either to be no remarks or only remarks received for reading out at the Discussion. The staff costs of holding a Discussion in the Senate-House are estimated to be over £200 an hour.³ The time spent by officers and speakers in attending in person could more usefully be applied to their usual duties. It should be possible to publish remarks without holding a meeting. Options for arrangements to cancel a physical meeting whilst retaining the mechanism for providing feedback are explored below.

Although Discussions may be adjourned if there is insufficient time to hear all speakers, this causes a delay in the conduct of the business and also inconvenience to those who will have to return on another day if they wish to read their remarks in person. On the relatively few occasions when there have been more speakers than can be heard in the time available, it should be understood that the remarks of those with prepared speeches will be published even if they have not been read out.

Some changes have already been approved, by Grace 4 of 4 July 2018, to the list of those who may attend a Discussion, so that it includes registered students and sabbatical officers of Cambridge University Students' Union and the Graduate Union. The Vice-Chancellor has discretion to allow those not listed to attend a specific Discussion, either as individuals or as a group (see, for example, recent Discussions concerning the Universities Superannuation Scheme, which have been opened up to all members of USS). No further changes to the list of those who have a right to attend are being proposed.

Options for changes

The following options are put forward for comments.

- More emphasis would be placed on the submission of written remarks without the need to attend a Discussion.
 There would be guidance on a word count, which it is suggested would be set at 1,500 words including footnotes.⁴
- 2. Reports would continue to be placed on the agenda of a Discussion. Those wishing to make remarks on a Report could be invited to do so by sending a copy of the text to reporter editor@admin.cam.ac.uk by 2 p.m. on the Monday before the Discussion on the next day. However, there would only be a physical meeting if (a) five members of the Regent House or others entitled to attend and speak at a Discussion requested by email from an @cam email address that there should be one to discuss a Report (i.e. a mechanism similar to the one used to call for a topic of concern) or (b) the body responsible for the Report requested that a meeting be held. The deadline for giving notice of a

¹ Some changes explicitly to allow the attendance of CUSU and GU officers have already been proposed: https://www.admin.cam.ac.uk/reporter/2017-18/weekly/6493/section11.shtml#heading2-21

² https://www.admin.cam.ac.uk/reporter/2017-18/special/04/section2.shtml

³ Based on a calculation of an hourly rate for a Pro-Vice-Chancellor, two Proctors, the University Draftsman (as Registrary's deputy), and a member of the Registrary's Office. This does not include the Senate-House Keeper.

⁴ This figure is based on the word counts of longer speeches delivered at recent Discussions, which were around the 10-minute mark in the sample taken. See also the proposed reduction to the length of speeches delivered orally noted below.

meeting would be 9 a.m. on the Wednesday before the Discussion was to take place on the Tuesday of the following week, in order to enable confirmation of the meeting to be published in the *Reporter* on that date⁶ and to alert the officers in attendance. Members would therefore, in the shortest timeframe, have one week to give notice that they wished to make remarks on the Report at a meeting. The rota arrangements would be retained to ensure the ability of a Chair and two Proctors to attend on the scheduled dates of Discussions (consideration could be given to allowing a person to be appointed by the Vice-Chancellor to act as Chair, which would allow a person who was not a member of the Regent House to be appointed, e.g. a recently retired member). The arrangements for publication of Discussion remarks would remain as before. The figure below shows the shortest timeline under these revised arrangements.

Wednesday	Publication of Report in the Reporter, placed on Discussion agenda
[6 days]	
Wednesday	9 a.m. deadline for giving notice of request for physical meeting / confirmation of meeting published in the <i>Reporter</i>
[4 days]	
Monday	2 p.m. deadline for sending in remarks to be read out / published ⁷
Tuesday	2 p.m. Discussion
[7 days]	
Wednesday	Publication of remarks in the Reporter

3. If there are more than ten people wishing to speak at the outset, the Chair should be granted the discretion to announce that the time limit for speaking at that Discussion will be reduced from 15 to 10 minutes, so that as many speakers as wish to speak can be accommodated.

Additional matters

It has been suggested that there is a need for a forum for members of the University to ask questions and receive answers on topics of interest to the internal community. Open meetings are already organized by the Office of External Affairs and Communications, and the format of these meetings is currently under review. Different formats of meetings have been trialled during the discussion of recent topics, including the open meetings on the USS and on the issues being explored by the Divestment Working Group. These open meetings could be extended to cover further topics, including the University's finances, and its budget and planning process, an explainer on University pay, and on University governance.

- ⁵ The remarks would be forwarded to the Proctors if a physical meeting were requested.
- ⁶ The names of those requesting a Discussion would not be published in order not to make major changes to the *Reporter* relatively late in its production schedule.
 - ⁷ This deadline would not be applicable to those attending in person.

Honorary Degree Committee: Call for nominations

Nominations and suggestions of names are invited for the award of honorary doctorates. Full details about the honorary degree process and eligibility criteria are published online at http://www.cam.ac.uk/about-the-university/how-the-university-and-colleges-work/processes/honorary-degrees/the-nomination-and-approval-process, where a list of honorary degrees conferred since 1977 may also be found.

The University Council's Honorary Degree Committee would welcome either full nominations submitted using the published nomination form or, more simply, suggestions of names of national or international distinction for the Committee to consider further. The University is committed to increasing diversity in its honorary degrees, and therefore would particularly welcome applications that are representative of a wide range of backgrounds.

Nomination forms or suggestions of names should be submitted in confidence, and will be treated confidentially by the Honorary Degree Committee. In order for them to be developed and considered fully at the Michaelmas Term 2018 meeting of the Committee, they should be sent by Monday, 3 September 2018 to HonoraryDegrees@admin.cam.ac.uk.

Publication of Statutes and Ordinances, 2018

The 2018 edition of the University's *Statutes and Ordinances* will be available in PDF and HTML formats online at http://www.admin.cam.ac.uk/univ/so/ by early October.

The Reprographics Centre in the Old Schools have agreed to produce copies for the University at a cost of £15 for a thermal-bound, two-volume copy. Orders for these are being collated by the Registrary's Office and should be sent – clearly stating the contact name, department or College, number of copies, and delivery address – by email to University.Draftsman@admin.cam.ac.uk by 31 October 2018. Orders received by **21 September 2018** should arrive for the start of Michaelmas Term.

VACANCIES, APPOINTMENTS, ETC.

Appointments, reappointments, and grants of title

The following appointments, reappointments, and grants of title have been made.

APPOINTMENTS

University Lecturers

Chemistry. Dr Gonçalo Jose Lopes Bernardes, TH, M.Sci., Lisbon, D.Phil., Oxford, appointed from 1 June 2018 until the retiring age and subject to a probationary period of five years.

Education. Dr Rob Jan Gruijters, B.A., Utrecht, M.Sc., Frankfurt, Ph.D., Humboldt, Germany, appointed from 1 September 2018 until the retiring age and subject to a probationary period of five years.

Physics. Dr Diana Fusco, B.Phys., M.Phys., Milan, Ph.D., Duke, USA, appointed from 16 July 2018 until the retiring age and subject to a probationary period of five years.

Heads of Department

Chemistry. Dr James Keeler, SE, appointed from 1 October 2018 to 30 September 2023.

Materials Science and Metallurgy. Professor Paul Midgley, PET, appointed from 1 October 2018 to 30 September 2023.

Politics and International Studies. Professor Jason Sharman, K, appointed from 1 October 2018 to 30 September 2021.

Physiology, Development, and Neuroscience. Professor Sarah Bray, DOW, and Professor Bill Colledge, CHU, appointed from 1 October 2018 to 30 September 2020.

Deputy Heads of Department

Biochemistry. Dr Sandra Fulton, G, appointed from 1 October 2018 to 30 September 2019.

Pathology. Professor Nick Coleman, DOW, appointed from 1 September 2018 to 31 August 2021.

Deputy Director

Criminology. Professor Manuel Eisner appointed from 1 October 2017 to 30 September 2019.

Senior Computer Officer

University Information Services. Dr Ruth Lisa Chadwick Charles appointed from 1 May 2018 until the retiring age.

REAPPOINTMENTS

Deputy Heads of Department

Biochemistry. Professor Mark Carrington, JN, reappointed from 1 October 2018 to 30 September 2019.

Genetics. Dr David Summers, CAI, reappointed from 1 October 2018 to 30 September 2021.

Pharmacology. Dr Robert Henderson, EM, reappointed from 1 October 2018 to 30 September 2021.

Physics. Professor Neil Greenham, CL, reappointed from 1 October 2018 to 30 September 2020.

GRANTS OF TITLE

Affiliated Lecturers

Architecture and History of Art. Dr Irene Galandra Cooper has been granted the title of Affiliated Lecturer from 1 October 2018 until 30 September 2019. Dr Michael Stuart Driver, Dr Anna Gannon, ED, Dr Irit Katz, G, Dr Nicola Kozicharow, TH, Reverend Dr John Millington Munns, M, Dr Kathrine Mary Reinhart, K, Mr Paul Shakeshaft, HH, Professor Frances Spalding, CLH, and Dr Deniz Turker Cerda, PEM, have been granted the title of Affiliated Lecturer from 1 October 2018 for a further year.

Education. Ms Isabel Murray Nisbet has been granted the title of Affiliated Lecturer from 1 October 2018 for a further year.

Correction

Unfortunately, the appointments notice published on 18 July 2018 (*Reporter*, 6515, 2017–18, p. 821) contained an error. The entry for Dr Collier should have read as follows:

University Lecturer

Theoretical and Applied Linguistics. Dr Nigel Henry Collier, B.Sc., Leeds, M.Sc., Ph.D., Manchester, appointed from 1 September 2018 until the retiring age.

Vacancies in the University

A full list of current vacancies can be found at http://www.jobs.cam.ac.uk.

University Senior Lecturer / University Lecturer in the Department of Psychology; start date: from 1 October 2018 or as soon as possible thereafter; salary: £53,691–£56,950 or £39,992–£50,618; closing date: 27 August 2018; further details: http://www.jobs.cam.ac.uk/job/18190/; quote reference: PJ16195

The University values diversity and is committed to equality of opportunity.

The University has a responsibility to ensure that all employees are eligible to live and work in the UK.

NOTICES BY THE GENERAL BOARD

Appointment of Heads of Departments

With effect from 1 October 2018

The General Board has approved the following amendments to the Regulations governing the appointment of Heads of Departments, so as to clarify that the role may be shared. It has also taken the opportunity to update the list of Departments in Regulation 3.

By amending Regulations 2 and 3 of the Regulations for Departments and Heads of Departments (*Statutes and Ordinances*, p. 613) so that they read as follows:

- **2.** (a) Subject to the provisions of Regulation 3, the Head of each Department, who shall be a University officer or University officers engaged in teaching and research in the Department, shall be appointed by the General Board, on the recommendation of the Faculty Board or other authority concerned, for a period not exceeding five years at a time, save that in a particular case the General Board shall have power, after consultation with the Faculty Board or other authority concerned, to make an appointment for a period not exceeding ten years at a time.
- (b) If more than one University officer is appointed as Head of a Department, (i) the arrangements for sharing the appointment shall be as determined by the General Board, and (ii) any provision in Ordinance or Regulation making reference to the Head of that Department in the singular shall be construed in accordance with those arrangements.
- **3.** The Head of each Department shall be a person or persons appointed in accordance with Regulation 2, except in the cases where an alternative arrangement is listed below:

FACULTIES AND DEPARTMENTS

HEAD OF DEPARTMENT

Faculty of Architecture and History of Art

Department of Architecture

Department of History of Art

Faculty of Asian and Middle Eastern Studies

Department of East Asian Studies

Department of Middle Eastern Studies

Faculty of Biology

Department of Biochemistry

Department of Genetics

Department of Pathology

Department of Pharmacology

Department of Physiology, Development, and Neuroscience

Department of Plant Sciences

Department of Psychology

Department of Zoology

Faculty of Business and Management

Judge Institute of Management (Judge Business School)

The Director of Judge Business School

Faculty of Clinical Medicine

Department of Clinical Biochemistry

Department of Clinical Neurosciences

Department of Haematology

Department of Medical Genetics

Department of Medicine

Department of Obstetrics and Gynaecology

Department of Oncology

Department of Paediatrics

Department of Psychiatry

Department of Public Health and Primary Care

Department of Radiology

Department of Surgery

Faculty of Computer Science and Technology

Department of Computer Science and Technology

Faculty of Earth Sciences and Geography

Department of Earth Sciences

Department of Geography

Faculty of Engineering

Department of Engineering

Faculty of English

Department of Anglo-Saxon, Norse, and Celtic

Faculty of Human, Social, and Political Science

Department of Archaeology

Department of Social Anthropology

Department of Sociology

Department of Politics and International Studies

Faculty of Law

Institute of Criminology

Faculty of Mathematics

Department of Applied Mathematics and Theoretical Physics Department of Pure Mathematics and Mathematical Statistics

Faculty of Physics and Chemistry

Institute of Astronomy

Department of Materials Science and Metallurgy

Department of Chemistry

Department of Physics

Faculty of Veterinary Medicine

Department of Veterinary Medicine

Departments independent of any Faculty

Chemical Engineering and Biotechnology

History and Philosophy of Science

Land Economy

The Director of the Institute of Criminology

The Director of the Institute of Astronomy

REGULATIONS FOR EXAMINATIONS

History and Modern Languages Tripos

(Statutes and Ordinances, p. 343)

With effect from 1 October 2018

The General Board, on the recommendation of the Faculty Boards of History and Modern and Medieval Languages and the Committee of Management for the History and Modern Languages Tripos, has approved amendments to the regulations for the Tripos so as to clarify rules around the submission of dissertations and Year Abroad projects, and to amend the list of available papers, as follows:

PART II

Regulation 19 (Dissertations).

By inserting a new Regulation 19(e) as follows, clarifying the expectation that dissertations shall be written in English unless the Faculty Board approves that it may be written in a language studied in Part IA or Part IB of the Tripos, and renumbering the existing Regulation 19(e) as Regulation 19(f).

- (e) A dissertation shall either
 - (i) be written in English, except that quotations from primary sources must be in the language of the original; *or*
 - (ii) if the Faculty Board so agrees, be written in a language in which a candidate has been examined in Parts IA or IB of the History and Modern Languages Tripos.

Regulation 20 (Year Abroad).

By amending Regulation 20(c), to include the option for the Faculty Board to approve a Year Abroad Project to be written in a language studied in Part IA or Part IB of the Tripos so as to read:

- (c) A Year Abroad Project shall either
 - (i) be written in English, except that quotations from primary sources must be in the language of the original or
 - (ii) if the Faculty Board so agrees, be written in a language in which a candidate has been examined in Parts IA or IB of the History and Modern Languages Tripos.

By amending Regulation 20(d) to include the option for the Year Abroad Project to be submitted as a translation project so as to read:

(d) A year abroad project may take two forms. If in the form of a dissertation, it shall normally be of not more than 8,000 words in length. If in the form of a translation project, it shall normally be of not more than 7,000 words in length.

By amending Regulation 20(h) so as to replace 'Modern and Medieval Languages Faculty Office' with 'Secretary of the Faculty Board of Modern and Medieval Languages', and to replace 'Committee of Management' with 'Faculty Board' so as to read:

(h) No student shall be a candidate for Part II unless evidence has been produced to the Secretary of the Faculty Board of Modern and Medieval Languages that during the academical year next before the year of the examination he or she has spent a period studying abroad under conditions approved by the Faculty Board in a country or countries relevant to the papers to be offered in examination. Such evidence will normally consist of a certificate from a university or employer confirming dates of attendance. Every student shall submit a report on their year abroad in the manner prescribed by the Faculty Board. Students shall keep the Secretary of the Faculty Board informed of their address abroad at all times.

By amending Regulation 20(i) to clarify the approval process for study abroad plans, and to replace 'the candidate's Director of Studies' with 'Year Abroad Office' and existing references to the 'Year Abroad Office' with 'Secretary of the Faculty Board' so as to read:

(i) A candidate proposing to study abroad shall apply to the Faculty Board for the approval of her or his plans, using a form issued by the Year Abroad Office. The application shall be submitted through the Year Abroad Office to the Secretary of the Faculty Board so as to arrive not later than the seventh Friday of the Full Lent Term in the academical year next preceding that which the candidate proposes to spend abroad, and shall indicate the country or countries that the student intends to visit and the way in which he or she will be occupied while abroad. If a student subsequently changes her or his plans, he or she must inform the Secretary of the Faculty Board and seek permission afresh.

SCHEDULE A

By adding a new area of study 'Comparative Studies' and amending the list of papers available as follows:

French

By adding the dagger symbol permitting the following papers to be assessed by Long Essay under Regulation 16:

Fr.3 Love, violence, and power in France, 1100–1500 (also serves as Paper 12 of Part I of the Anglo-Saxon, Norse, and Celtic Tripos)

Fr.4 Rethinking the human: French literature, thought, and culture, 1500–1700

Fr.5 Revolutions in writing, 1700–1900

Fr.6 Innovation and upheaval: deformation and reformulation in the 20th and 21st centuries

German

By adding the dagger symbol permitting the following papers to be assessed by Long Essay under Regulation 16:

Ge.2 German history and thought since 1750

Ge.5 Modern German culture I, 1750 to 1914

Ge.6 Modern German culture, II

Italian

By removing the dagger permitting the following paper to be assessed by Long Essay under Regulation 16:

It.5 Italian identities: place, language, and culture

Spanish

By adding a footnote so as to suspend the following paper indefinitely:

Sp. 2 Introduction to Hispanic texts

Slavonic Studies

By adding a footnote so as to suspend the following papers indefinitely:

Sl.3 Early modern Russia: literature, history, and visual culture from 1300 to 1725

Sl.11 Russia in revolution, from 1861 to 1917

Sl.12 Socialist Russia 1917–1991

By removing the following papers from the list of options:

Sl.9 Introduction to the language, literature, and culture of Ukraine

Sl.13 Introduction to the language, literature, and culture of Poland

By adding the dagger symbol to permit the following paper to be examined by Long Essay under Regulation 16:

Sl.14 Russian culture from 1905 to the death of Stalin

By adding the following:

Comparative Studies

CS.1 The Romance languages

SCHEDULE B

By including the following papers in the list of options:

Du.5 Introduction to the language and literature of the Low Countries (Part IB)

Gr.3 Introduction to Greek language and culture (Part IB and Part II)

Gr.6A Myth matters: receptions of mythology in Modern Greek literature and culture (ab initio) (Part II)

Gr.6I Myth matters: receptions of mythology in Modern Greek literature and culture (intermediate) (Part II)

Pg.3 Introduction to the language, literatures, and cultures of the Portuguese-speaking world (Part IB and Part II)

Sp.6 Introduction to Catalan language and culture (Part IB)

SCHEDULE C

By adding a new area of study 'Comparative Studies', amending the title of one paper, and amending the list of options as follows:

Spanish

By including the following paper in the list of options:

Sp.10 The culture and language of contemporary Catalonia

And by changing the title of Paper Sp.14 from 'Spanish literature, life, and history before 1492', to 'Frontiers: medieval Spanish literature and culture'.

Slavonic Studies

By adding a footnote so as to suspend the following papers indefinitely:

Sl.3 Early modern Russia: literature, history, and visual culture from 1300 to 1725

Sl.11 Russia in revolution, from 1861 to 1917

Sl.12 Socialist Russia 1917-1991

By removing the following papers from the list of options:

Sl.9 Introduction to the language, literature, and culture of Ukraine

Sl.13 Introduction to the language, literature, and culture of Poland

By adding the following:

Comparative Studies

CS.1 The Romance languages

CS.3 The Slavonic languages

CS.5 The body

CS.6 European film

The Committee is satisfied that no student's preparation for the examination in 2018–19 will be affected.

Master of Philosophy by Advanced Study; Bachelor of Medicine and Bachelor of Surgery

(Statutes and Ordinances, p. 506 and p. 475)

With effect from 1 October 2018

The General Board regrets that some changes to the regulations for the above degrees were omitted in error from the Joint Report of the Council and the General Board on the governance of examinations and assessment (*Reporter*, 6509, 2017–18, p. 672), as approved by Grace 3 of 27 June 2018 (see also Graces 4–6, p. 867).

Master of Philosophy by Advanced Study

Regulation 2.

By replacing a reference to the Board of Examinations with a reference to the General Board.

Regulation 11.

By replacing a reference to the Board of Examinations with a reference to the Board of Graduate Studies.

Bachelor of Medicine and Bachelor of Surgery

Regulation 15

By replacing a reference to the Board of Examinations with a reference to the Registrary.

Advanced Diploma in Research Theory and Practice in English (Engineering or Business Management)

With effect from 1 October 2019

The General Board, on the recommendation of the Faculty Board of Engineering, the Faculty Board of the Cambridge Judge Business School, and the Strategic Committee of the Institute of Continuing Education, has approved the establishment of a new examination in Research Theory and Practice in English (Engineering *or* Business Management) as a subject for the Advanced Diploma with effect from 1 October 2019. Regulations for the Advanced Diploma in Research Theory and Practice in English (Engineering *or* Business Management) have been approved as follows:

ADVANCED DIPLOMA IN RESEARCH THEORY AND PRACTICE IN ENGLISH (ENGINEERING OR BUSINESS MANAGEMENT)

- 1. The Advanced Diploma in Research Theory and Practice in English (with a specialization in Engineering or Business Management) shall be awarded to a member of the University, qualified under Regulation 2, who has diligently attended the course of instruction prescribed by the Faculty Board of Engineering or Business and Management, which shall extend over one academical year, and who has satisfied the Examiners in the examination for the Diploma as defined in the following regulations; provided that he or she has kept three terms. For the purpose of this regulation graduates of the University may count previous residence *in statu pupillari*.
- 2. A candidate for the Advanced Diploma in Research Theory and Practice in English (with a specialization in Engineering or Business Management) must be recommended by the Institute of Continuing Education's Academic Policy and Operations Committee and formally approved by the Degree Committee for the Faculty of Engineering or the Degree Committee for the Faculty of Business and Management, as appropriate. Each candidate shall pursue in the University a course of study extending over one academical year. The Course Director of the Advanced Diploma in Research Theory and Practice in English (with a specialization in Engineering or Business Management) will supervise the candidate and shall comply with any special conditions that the relevant Degree Committee may prescribe. No one shall be a candidate in the same year both for the Advanced Diploma in Research Theory and Practice in English (with a specialization in Engineering or Business Management) and for another Diploma or for any Honours Examination.
- **3.** The scheme of examination for the Advanced Diploma in Research Theory and Practice in English (Engineering *or* Business Management) shall be as follows:
- Part 1 One essay of between 3,000 and 4,000 words in length, and either one essay of between 3,000 and 4,000 words in length or one mini-project of between 3,000 and 4,000 words in length, each on a topic approved by the Course Director and in compliance with any special conditions prescribed by the relevant Degree Committee.

- Part 2 A dissertation of between 10,000 and 12,000 words in length, including footnotes, but excluding reference list and appendices, reporting the findings of an independent research project on a topic approved by the Course Director and in compliance with any special conditions prescribed by the relevant Degree Committee.
- **4.** The appropriate Degree Committee (either Engineering or Business and Management) shall nominate such number of Examiners as they deem sufficient; they shall also have power to nominate one or more Assessors to the Examiners.
- **5.** All examined work shall be assessed by at least one academic in the general field of knowledge in which it falls, either Engineering or Business Management, and for English language and academic literacy skills by one academic in that field of expertise.
- **6.** A candidate who has satisfied the Examiners in both Parts of the examination shall be entitled to an Advanced Diploma.
- 7. In the list of successful candidates special excellence in the examination shall be recognized by the award of a mark of distinction.
 - **8.** The Advanced Diploma shall be in the following form:

THIS IS TO CERTIFY THAT having satisfied the preliminary conditions and having been admitted to the examination appointed by the University of Cambridge has been approved by the Examiners and has been awarded the Advanced Diploma in Research Theory and Practice in English, with a specialization in Engineering.

Or

THIS IS TO CERTIFY THAT having satisfied the preliminary conditions and having been admitted to the examination appointed by the University of Cambridge has been approved by the Examiners and has been awarded the Advanced Diploma in Research Theory and Practice in English, with a specialization in Business Management.

- **9.** While studying in the University for the Diploma a candidate shall pay the appropriate University Composition Fee for each term of such study.
- 10. A student who has taken the examination for the Advanced Diploma shall not be entitled to count the period or any part of the period during which he or she has been a candidate for the Advanced Diploma towards a course of research for the degree of Ph.D., M.Sc., M.Litt., M.Phil., M.B.A., M.Acc., M.St., Postgraduate Diploma, or Postgraduate Certificate.

Diplomas and Certificates open to non-members of the University

(Statutes and Ordinances, p. 591)

With effect from 1 September 2018

The General Board, on the recommendation of the Strategic Committee of the Institute of Continuing Education and the Faculty Board of Education, has approved the addition of the Postgraduate Certificate in Teaching Creative Writing to the Schedule to the regulations for Diplomas and Certificates open to non-members of the University, as shown below:

Certificates

Institute of Continuing Education

Postgraduate Certificate in Teaching Creative Writing¹

Language Centre CULP Awards

(Statutes and Ordinances, p. 660)

With effect from 1 October 2018

The General Board, on the recommendation of the Council of the School of Arts and Humanities, has approved the delivery of two new language courses in Turkish. The schedule of subjects approved for certificates of proficiency awarded by the Language Centre will be amended to include the following subjects:

Turkish Basic 1

Turkish Basic 2

¹ Insert With Distinction if the candidate has been awarded a mark of distinction.

¹ This Postgraduate Certificate will run in 2018–19 and 2019–20 initially.

NOTICES BY FACULTY BOARDS, ETC.

Historical Tripos, 2020: Notice of subjects and periods

The Faculty Board of History gives notice that the options for Paper 1 of Part I of the Historical Tripos, 2020 (Statutes and Ordinances, p. 338) will be as follows:

Themes and sources:

1	Money and society from late antiquity to the financial revolution
ii	Royal and princely courts: ancient, medieval, and early modern
iii	Religious conversion and colonialism
iv	Remaking the modern body, 1543–1939
V	The Bandung moment: revolution and anti-imperialism in the twentieth century
vi	Comparative histories of race, class, and culture: Southern Africa, 1850–2013
vii	Performance and power in ancient and medieval cities
viii	Sacred histories
ix	The history of collecting
X	Wealth and poverty in West Africa, from the slave trades to the present
xi	Utopian writing 1516–1789
xii	Fighting for Algeria, fighting for France, 1945–1962 (French sources)
xiii	Imagining Ancient Rome in film, television, and popular culture
xiv	Film and history, 1929–1945
xv	World environmental history

The Faculty Board of History gives notice that the Special Subjects for Papers 2 and 3 of Part II of the Historical Tripos, 2020 (Statutes and Ordinances, p. 340) will be as follows:

Roman religion: identity and empire [associated with C2 of Part II of the Classical Tripos]	(A)
The 'Angevin Empire', 1150s–1230s	(B)
Uses of the visual in early modern Germany, c.1450–1550	(D)
The well-protected domains: a spatial history of the Ottoman empire, 1300–1800	(E)
The culture of the miraculous in Renaissance Italy	(G)
Food and drink in Britain and the wider world, c.1550–1800	(H)
The 1848 Revolutions	(I)
The British and the Ottoman Middle East, 1798–1850	(J)
Fin de siècle Russia, 1891–1917	(K)
The transformation of everyday life in Britain, 1945–1990	(L)
Empires and the American imagination, c.1763–c.1900	(M)
Central European cities: Budapest, Prague, Vienna, 1450–1914	(N)
Missionary science, ethnic formation, and the religious encounter in Belgian Congo	(O)
The Kantian Revolution	(P)
Indian democracy: ideas in action, $c.1947-2007$	(Q)

The subjects for the variable papers in Section D of Part II of the Historical Tripos, 2020 (Statutes and Ordinances, p. 340) will be:

- 7 Transformation of the Roman world [Paper C4 of Part II of the Classical Tripos] 8 The Near East in the age of Justinian and Muhammad, AD527–700 10 Living in Athens [Paper C1 of Part II of the Classical Tripos] Early medicine [Paper BBS113 of NST Part II Biological and Biomedical Sciences] 11 12 The middle ages on film: medieval violence and modern identities 13 Man, nature, and the supernatural, c.1000-c.1600 14 Material culture in the early modern world 15 Print and society in early modern England 16 Overseas expansion and British identities, 1585-1714 17 The politics of knowledge from the late Renaissance to the early Enlightenment 18 Japanese history [Paper J6 of Part IB of the Asian and Middle Eastern Studies Tripos] 21 Borderlands: life on the Habsburg-Ottoman frontier, 1521-1881 22 Stalinism and Soviet life 23 The long road to modernization: Spain since 1808 Consumption and consumer culture in the United States 26 28 The history of the Indian sub-continent from the late eighteenth century to the present day
- 29 The history of Africa from 1800 to the present day
- 30 'Islands and beaches': the Pacific and Indian Oceans in the long nineteenth century

Candidates for Part II in 2020, who have previously taken Part I of the Historical Tripos and who did not offer in that Part a paper falling mainly in the period before 1750, may meet the requirement to take a pre-1750 paper in Part II by offering one of the Special Subjects A, B, D, E, G, or H or by offering one of the Papers 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, and 21 or a dissertation, provided that its subject falls mainly in the period before 1750.

Candidates for Part II in 2018, who have previously taken Part I of the Historical Tripos and who did not offer in that Part a paper in European History, may meet the requirement to take a European History paper in Part II by offering one of the following papers: 7, 8, 14, 21, 22, and 23.

Human, Social, and Political Sciences Tripos, Part II, 2018–19

The Faculty Board of Human, Social, and Political Science gives notice of the following papers which are offered, and those which are not offered, for Part II of the Human, Social, and Political Sciences Tripos in the academical year 2018–19.

Archaeology par	pers
PART IIB	
ARC6.	Archaeological theory and practice I (Paper A10 of the Archaeology Tripos)
ARC8.	Archaeological science I (Paper A21 of the Archaeological Tripos)
ARC9.	Archaeological science II
ARC10.	Palaeolithic archaeology (Paper A22 of the Archaeology Tripos)
ARC11.	Special topics in palaeolithic archaeology and human evolution
ARC12.	European prehistory (Paper A23 of the Archaeology Tripos)
ARC14.	Aegean prehistory (Paper D1 of the Classical Tripos)
ARC15.	Beyond classical art (Paper D2 from Part II of the Classical Tripos)
ARC17.	Roman cities: network of empire (Paper D4 from Part II of the Classical Tripos)
ARC18.	Settlement and society in Ancient Egypt (Paper A27 of the Archaeology Tripos)
ARC20.	The archaeology of religion in Ancient Egypt (Paper A29 of the Archaeology Tripos)
ARC22.	Mesopotamian archaeology I: prehistory and early states (Paper A25 of the Archaeology Tripos)
ARC25.	Mesopotamian culture II: religion and scholarship (Paper M3 of the Archaeology Tripos)
ARC26.	The medieval globe (Paper A24 of the Archaeology Tripos)
ARC27.	The medieval globe (Paper A24 of the Archaeology Tripos)
ARC29.	Ancient India I: the Indus civilization and beyond (Paper A31 of the Archaeology Tripos)
ARC32.	The archaeology of Mesoamerica and North America (Paper A34 of the Archaeology Tripos)
ARC33.	The archaeology of Africa (Paper A35 of the Archaeology Tripos)
ARC34.	Akkadian language II (Paper M4 of the Archaeology Tripos)
ARC35.	Akkadian language III
ARC37.	Middle Egyptian text (Paper E2 of the Archaeology Tripos)
ARC38.	Old and Late Egyptian texts (Paper E3 of the Archaeology Tripos)
The following Ar	chaeology papers are not offered in 2018–19:
ARC7.	Archaeological theory and practice II (Paper A12 of the Archaeology Tripos)
ARC13.	Special topics in European prehistory
ARC16.	The poetics of classical art (Paper D3 of the Classical Tripos)
ARC19.	Ancient Egypt in context: an archaeology of foreign relations / Historical archaeology of Ancient Egypt II (Paper A28 of the Archaeology Tripos)
ARC21.	The archaeology of death and burial in Ancient Egypt / Historical archaeology of Ancient Egypt II (Paper A30 of the Archaeology Tripos)
ARC23.	Mesopotamian archaeology II: territorial states to empires (Paper A26 of the Archaeology Tripos)
ARC24.	Mesopotamian culture II: literature (Paper M2 of the Archaeology Tripos)
ARC28.	The archaeology of medieval Britain (also serves as Paper 11 of Part II of the History Tripos)
ARC30.	Ancient India II: early historic cities of South Asia (Paper A32 of the Archaeology Tripos)
ARC31.	Ancient South America
ARC36.	Sumerian language (Paper M6 of the Archaeology Tripos)
ARC39.	Mesopotamian history I: states and structures (Paper M7 of the Archaeology Tripos)
ARC40.	Mesopotamian history II: empires and systems (Paper M8 of the Archaeology Tripos)

Biological Anthropology

Part IIb	
BAN2.	Human ecology and behaviour (Paper B2 of the Archaeology Tripos)
BAN3.	Human evolution (Paper B3 of the Archaeology Tripos)
BAN4.	From data to interpretation (Paper B5 of the Archaeology Tripos)
BAN5.	A subject in biological anthropology I: Major topics in human evolutionary studies
BAN6.	A subject in biological anthropology II: Evolution within our species
BAN7.	A subject in biological anthropology III: Human culture and behaviour
BAN8.	A subject in biological anthropology IV: Health and disease in anthropological perspective
BAN9.	A subject in biological anthropology V: Special topics in palaeolithic archaeology and human evolution
Politics and I	nternational Studies
Part IIa	
POL3.	International organization
POL4.	Comparative politics
POL5.	Conceptual issues in politics and international relations
POL6.	Statistics and methods in politics and international relations
POL7.	The history of political thought to 1700
POL8.	The history of political thought from 1700–1890
Part IIb	
	Consented in a destate in a lities and intermediated relations
POL9. POL10.	Conceptual issues and texts in politics and international relations
	The history of political thought from 1700–1890
POL11.	Political philosophy and the history of political thought since 1890
POL12. POL13.	The politics of the Middle East
POL13. POL14.	The politics of Europe US foreign policy
POL14. POL15.	The politics of Africa
POL15.	Law of peace: the law of emerging international constitutional order
POL17.	The politics of Southeast Asia
POL17.	Politics and gender
POL19.	The politics of the international economy
POL20.	The politics of the future, 1880–2080
POL21.	China in the international order
	Cilità il tile iliteritational order
Sociology	
PART IIA	
SOC2.	Social theory
SOC3.	Modern societies II
SOC4.	Concepts and arguments in sociology
SOC5.	Statistics and methods (also serves as CRIM2 in Part IIA of the HSPS Tripos)
CRIM1.	Foundations in criminology and criminal justice
CRIM3.	Two long essays on a criminology topic
PART IIB	
SOC6.	A subject in sociology I: Advanced social theory
N/ W 17	

Part IIb	
SOC6.	A subject in sociology I: Advanced social theory
SOC7.	A subject in sociology II: Media, culture, and society
SOC8.	A subject in sociology III: Religion and contentious mobilization
SOC9.	A subject in sociology IV: Global capitalism
SOC10.	A subject in sociology V: Gender
SOC11.	A subject in sociology VI: Racism, race, and ethnicity
SOC12.	A subject in sociology VII: Social problems in modern Britain
SOC13.	A subject in sociology VIII: Health, medicine, and society
SOC14.	The sociology of education (Paper 3 of Part II of the Education Tripos)
SOC15.	Criminology, sentencing, and the penal system (Paper 34 of the Law Tripos)

Social Anthropology

-		
DAD	тl	I A
IAK		I A

SAN2. The foundations of social life

SAN3. Anthropological theory and methods SAN4. The anthropology of an ethnographic area

(a) Africa

(b) Latin America (c) Middle East (d) South Asia

PART IIB

SAN5. Ethical life and the anthropology of the subject SAN6. Power, economy, and social transformation

PART IIA OR PART IIB

SAN11. A subject in social anthropology V: Anthropology of media and visual culture SAN12. A subject in social anthropology VI: Anthropology of cities and space SAN13. A subject in social anthropology VII: Gender, kinship, and care

The following Social Anthropology courses are not available in 2018–19:

SAN7. A subject in Social Anthropology I
SAN8. A subject in Social Anthropology II
SAN9. A subject in Social Anthropology III
SAN10. A subject in Social Anthropology IV
SAN14. A subject in Social Anthropology VIII

Examination in Bioscience Enterprise for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Bioscience Enterprise for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 515) in the academical year 2018–19 and the form of examination of each module will be as follows:

Science and Technology (ST) modules

ST1	Treating disease	Coursework
ST2	Drug discovery I	Coursework
ST3	Drug discovery II	Coursework
ST4	Diagnostics and devices	Coursework
ST5	Agbiotech	Coursework

Business (B) modules

B1, B2, B3	Management of technology and innovation	Coursework
B4	Healthcare economics	Coursework
B5	Law and intellectual property	Coursework

Transitionary (T) modules

T1	Company analysis I: partnerships and alliances	Coursework
T2	Company analysis II: finance and valuation	Coursework
T3	Building a bioscience enterprise I	Coursework
T4	Building a bioscience enterprise II	Coursework

Joint assessments

Several principal individual assessments cover material from multiple modules, and include written papers on selected topics in science and technology in business (each of 4,000 words maximum) and a business plan submission. These assessments are:

STB1	Science and technology in business, paper I
STB2	Science and technology in business, paper II

T5 Business plan

Coursework includes individual and/or group activities, to address one or a selected combination of report, critical appraisal, extended paper, or audio-visual presentation and may include engagement in approved extracurricular activities.

All candidates are required to complete a dissertation of up to 10,000 words (Reference: E1) on a topic approved by the Degree Committee, and will give a presentation on the project work at a symposium (Reference: E2). A mark will also be given for 'Extramural participation and entrepreneurship' (Reference: T6), based on continuous assessment of factors such as students' displayed leadership qualities, publications, participation in business plan competitions, etc.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Biotechnology for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Biotechnology for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 515) in the academical year 2018–19 and the form of examination of each module will be as follows:

Core modules

PBT	Principles of biotechnology (double module)	Coursework
Elective mod	ules (candidates must take six)	
В3	Pharmaceutical engineering	Examination
C1	Optical microscopy	Examination
C3	Healthcare biotechnology	Examination
C7	Bionanotechnology	Examination
C8	Biophysics (techniques)	Examination
4G1	Mathematical biology of the cell	Coursework
4G2	Biosensors	Coursework
4G3	Computational neuroscience	Coursework
4G4	Biomimetics	Coursework
4G6	Cellular and molecular biomechanics	Examination
MAM2	Systems biology	Examination
4E4	Management of technology	Coursework
4E5	International business	Coursework
418	Medical physics	Examination

Research

All candidates are required to complete an individual project report of up to 7,000 words (reference: RP1) and contribute to a team project report of up to 7,000 words (reference: GP1).

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Energy Technologies for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Energy Technologies for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 523) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Core courses (compulsory)

ETA1	Energy topics	Coursework
ETA2	Revision of fundamentals	Coursework
ETB1	Clean fossil fuels	Coursework
ETB2	Renewables 1: wind, wave, tidal, and hydro	Coursework
ETB3	Renewables 2: solar and biofuels	Coursework
Electives		
ETB4	Energy systems and efficiency	Coursework
4A2	Computational fluid dynamics	Coursework
4A3	Turbomachinery I	Coursework and examination
4A7	Aerodynamics	Coursework
4A9	Molecular thermodynamics	Examination
4A10	Flow instability	Examination
4A12	Turbulence and vortex dynamics	Examination
4A13	Combustion and IC engines	Examination
4A15	Aeroacoustics	Examination
4B19	Renewable electrical power	Examination
4C7	Random and non-linear vibrations	Coursework and examination
4D13	Architectural engineering	Coursework
4E4	Management of technology	Coursework
4E11	Strategic management	Coursework
4I10	Nuclear reactor engineering	Examination
4I11	Advanced fission and fusion systems	Examination
4M12	Partial differential equations and variational methods	Examination

4M16	Nuclear power engineering	Examination
4M18	Present and future energy systems	Examination
4M19	Advanced building physics	Coursework
4M20	Robotics	Coursework
5R10	Turbulent reacting flows	Coursework
5R18	Environmental fluid mechanics and air pollution	Coursework
B2	Catalysis	Examination
В3	Electrochemical engineering	Examination
B7	Particle technology	Examination

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Engineering for Sustainable Development for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Engineering for Sustainable Development for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 524) in the academical year 2018–19 and the form of examination of each module will be as follows:

Inner core modules (mandatory)

Teaching to take place in	Michaelmas Term 2018
---------------------------	----------------------

ESD200	Sustainability methods and metrics	Coursework
--------	------------------------------------	------------

Teaching to take place in Lent Term 2019

ESD150	Organizational change, values, and negotiation	Coursework
ESDCCP	Client consultancy project	Coursework

Outer core modules (candidates must take at least two)¹

Teaching	to take	nlace in	Michaelmas	Term 2018

ESD360	Resilience and hazard mitigation in future cities	Coursework
ESD560	Innovations in sustainable manufacturing	Coursework

Teaching to take place in Lent Term 2019

ESD450	Policy, legislation, and government	Coursework
ESD650	International development	Coursework

Elective modules

Teaching to take place in Michaelmas Term 2018

4B19	Renewable electrical power	Examination ²
4D13	Architectural engineering	Coursework
4D16*	Construction engineering	Examination ²
4E4*	Management of technology	Coursework
4E6*	Accounting and finance	Coursework
4M18	Present and future energy systems	Examination ²
4M19	Advanced building physics	Coursework
4M22	Climate change mitigation	Coursework
TP1	Technology policy: concepts and frameworks	Coursework
TPE23	Negotiation skills	Coursework
TPE25 ⁴	Strategic valuation uncertainty and real options in system design	Coursework
EP02 ⁴	Fundamentals of environmental economics	Coursework
EP08	Comparative environmental politics and policy	Coursework
ESD-A2	Sustainable architecture and urban design	Coursework

Teaching to take place in Lent Term 2019

ESD700 ^{3,5}	Infrastructure design of poor settlements in developing countries	Coursework
4D14	Contaminated land and waste containment	Coursework and examination
4E5*	International business	Coursework
4E11*	Strategic management	Coursework
4G4	Biomimetics	Coursework
4I7/TEP22	Electricity and environment	Coursework
5R18	Environmental fluid mechanics	Coursework
ETB2 ⁵	Renewable energy: wind, wave, tidal, and hydro	Coursework
ETB3 ^{5,6}	Renewable energy: solar and biomass	Coursework
ETB4 ⁵	Energy systems and efficiency	Coursework
TP4*	Business, government, and technology in emerging markets	Coursework
TPE5	Policy, design, and evaluation	Examination (two hours)
TPE20*	Management of the innovation process	Coursework
EP06 ⁴	Energy and climate change	Examination ²

Research requirements

All candidates are required to submit a dissertation of up to 15,000 words on a topic approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

- ¹ Two modules can be selected from the outer core as elective modules.
- ² All written examinations are of one and a half hours' duration unless otherwise specified.
- ³ Subject to numbers.
- ⁴ A cap will be placed of approximately five ESD students per module.
- ⁵ Provisional, and to be confirmed.
- ⁶ Lectures in both Michaelmas and Lent Terms (classed as a Lent module).
- ⁷ Limited places available.

Examination in Industrial Systems, Manufacture, and Management for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Industrial Systems, Manufacture, and Management for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 530) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Taught modules (all compulsory)

ISMM1	Manufacturing processes	Coursework
ISMM2	Operations and supply chain management	Coursework
ISMM3	Data and modelling	Coursework
ISMM4	Marketing and new business development	Coursework
ISMM5	Research methods	
4E1	Innovation and strategic management of intellectual property	Coursework
4E4	Management of technology	Coursework
4E5	International business	Coursework

Projects (all compulsory)

PR1	Industrial project 1	Coursework
PR2	Industrial project 2	Coursework
PR3	Entrepreneurship project	Coursework
PR4	Industrial project 3	Coursework
PR5	Combined essay	Coursework

Research requirement

All candidates must submit a thesis of not more than 15,000 words on a subject approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Machine Learning and Machine Intelligence for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Machine Learning and Machine Intelligence for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 533) in the academical year 2018–19 and the form of examination of each module will be as follows:

Core modules

MLMI1	Introduction to machine learning and spoken language processing	Coursework and examination
MLMI2	Speech recognition	Coursework
MLMI4	Advanced machine learning	Coursework
MLMI5	Speech and language processing applications (half)	Coursework
MLMI7	Reinforcement learning and decision making (half)	Coursework
MLMI8	Statistical machine translation (half)	Coursework
MLMI9	Statistical spoken dialogue systems (half)	Coursework
MLMI10	Statistical speech synthesis (half)	Coursework
MLMI12	Computer vision (optional)	Coursework
MLMI13	Natural language processing (optional)	Coursework
4F10	Deep learning and structured data	Examination
4F13	Probabilistic machine learning (double)	Coursework

Elective modules (candidates must take one)

4F1	Control system design	Coursework and examination
4F2	Robust and nonlinear systems and control	Examination
4F3	An optimization based approach to control	Examination
4F5	Advanced communications and coding	Examination
4F7	Digital filters and spectrum estimation	Examination
4F8	Image processing and image coding	Examination
4F14	Computer systems	Coursework and examination
4G3	Computational neuroscience	Coursework
4M17	Practical optimization	Coursework
4M20	Robotics	Coursework
L18	Automated reasoning	Coursework
L95	Introduction to natural language syntax and parsing	Coursework
R222	Advanced topics in natural language processing	Coursework

Note that some options are half modules, and that one is weighted as a double module. This is indicated above in the module names.

Research

All candidates are required to submit a dissertation of up to 15,000 words on a topic approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Nuclear Energy for the degree of Master of Philosophy, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Nuclear Energy for the degree of Master of Philosophy (*Statutes and Ordinances*, p. 539) in the academical year 2018–19 and the form of examination of each module will be as follows:

Compulsory core modules

NE1	Reactor physics	Examination
NE2	Reactor engineering and thermal-hydraulics (double)	Coursework and examination
NE5	Nuclear safety principles and practice (half)	Coursework and examination
NE6	Nuclear policy	Coursework
NE7	Nuclear practice (half)	Coursework

Other core modules (candidates must take at least one)

NE3	Materials for nuclear energy	Examination
NE4	Fuel cycle, waste, and decommissioning	Examination
NE8	Computational reactor modelling	Coursework
NE9	Advanced fission and fusion reactor systems	Coursework

Elective modules

4A2	Computational fluid dynamics	Coursework
4A3	Turbomachinery I	Coursework and examination
4B19	Renewable electrical power	Examination
4C4	Design methods	Examination
4C5	Design case studies	Coursework
4D7	Concrete structures	Coursework and examination
4D10	Structural steelwork	Coursework and examination
4E4	Management of technology	Coursework
4E5	International business	Coursework
4E6	Accounting and finance	Coursework
4E11	Strategic management	Coursework
4F1	Control system design	Coursework and examination
4F2	Robust and nonlinear systems and control	Examination
4F12	Computer vision	Examination
4I7	Electricity and environment	Coursework
418	Medical physics	Examination
4M15	Sustainable energy	Coursework and examination
4M17	Practical optimization	Coursework
4M18	Present and future energy systems	Examination
ESD560	Innovations in sustainable manufacturing	Coursework
B6	Fluid mechanics and the environment	Examination
TP1	Technology policy	Coursework
TP2	Economic foundations of technology policy	Coursework
TP4	Business, government, and technology in emerging markets	Coursework
TP5	Policy design and evaluation	Coursework
TPE6	Strategic valuation uncertainty and real options in system design	Coursework
TPE7	Political economy of technology policy	Coursework
TPE10	Management of the innovation process	Coursework
TPE20	Management of the innovation process	Coursework
TPE21	Entrepreneurial science and innovation policy	Coursework
TPE23	Negotiation skills	Coursework
TPE24	Platform strategy	Coursework
TPE25	Strategic valuation uncertainty and real options in system design	Coursework
ESD150	Driving change towards sustainability	Coursework
M3	Extraction and recycling	Examination
M15	Corrosion and protection	Examination
M16	Atomistic materials modelling	Examination
M21	Steels	Examination
PNP	Particle and nuclear physics/comp physics	Examination
Note that some o	entions are half-modules, and one is a double module. This is indicated	d above in the module names

Note that some options are half-modules, and one is a double module. This is indicated above in the module names.

Research

All candidates are required to submit a dissertation of up to 15,000 words on a topic approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Future Infrastructure and Built Environment for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Future Infrastructure and Built Environment for the degree of Master of Research (*Statutes and Ordinances*, p. 550) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Core modules (all compulsory)

CM1	Civil engineering theory	Coursework
CM2	Civil engineering research methods	Coursework
CM3	Multi-disciplinarity in civil engineering	Coursework
ETech	Introduction to entrepeneurship	Coursework

Elective modules (two to be chosen in consultation with the Course Director)

4C6	Advanced linear vibrations	Coursework and examination
4C7	Random and non-linear vibrations	Coursework and examination
4C9	Continuum mechanics	Examination
4D4	Construction engineering	Coursework
4D5	Foundation engineering	Coursework and examination
4D6	Dynamics in civil engineering	Coursework and examination
4D7	Concrete structures	Coursework and examination
4D10	Structural steelwork	Coursework and examination
4D13	Architectural engineering	Coursework
4D15	Sustainable water engineering	Coursework
4D16	Construction engineering	Examination
4F8	Image processing and image coding	Examination
4F12	Computer vision	Examination
4G4	Biomimetics	Coursework
4M12	Partial differential equations and variational methods	Examination
4M16	Nuclear power engineering	Examination
4M17	Practical optimization	Coursework
4M18	Present and future energy systems	Examination
4M19	Advanced building physics	Coursework
4M20	Robotics	Coursework
4M22	Climate change mitigation	Coursework
5R5	Advanced experimental methods in geomechanics	Coursework
5R7	Advanced numerical methods in geomechanics	Coursework
5R13	Experimental methods in mechanics	Coursework
5R14	Nonlinear solid mechanics	Coursework
5R19	Earthquake engineering	Coursework
EP10	Climate change policy and land development	Examination

Research

All candidates are required to complete a desktop study (DS), a mini-project (MP), a group project (GP), and an M.Res. dissertation of up to 12,000 words on a topic approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Gas Turbine Aerodynamics for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Gas Turbine Aerodynamics for the degree of Master of Research (*Statutes and Ordinances*, p. 550) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Core modules

GTA1	Advanced gas turbine aerodynamics	Examination
GTA2	Turbomachinery aerodynamic design process	Coursework
GTA3	Experimental methods	Coursework
GTA4	Researcher skills	Coursework

Elective modules

Elective mou	iules	
4A2	Computational fluid dynamics	Coursework
4A3	Turbomachinery I	Coursework and examination
4A7	Aerodynamics	Coursework
4A9	Molecular thermodynamics	Examination
4A15	Aeroacoustics	Examination
4B19	Renewable electrical power	Examination
4E4	Management of technology	Coursework
4E6	Accounting and finance	Coursework
4F1	Control system design	Coursework and examination
4M17	Practical optimization	Coursework
4M18	Present and future energy systems	Examination
4I7	Electricity and environment	Coursework

Coursework

Coursework

Research

All candidates are required to complete three mini-projects:

MP1 Combustion system aerodynamics

MP2 Compressor performance

MP3 Internal flows and combustor-turbine interaction
All candidates are furthermore required to complete two industry courses:

IC1 Holistic gas turbine design IC2 Hands-on gas turbine training

Finally, all candidates are required to complete a Ph.D. proposal dissertation of up to 12,000 words on a topic approved by the Degree Committee.

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Graphene Technology for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Graphene Technology for the degree of Master of Research (*Statutes and Ordinances*, p. 551) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Core modules (all compulsory)

GRM1	Science of graphene, related layered materials, and hybrid systems	Examination
GRM2	Technology of graphene, related layered materials, and hybrid systems	Examination
GRM3	Flexible electronics	Examination
GRM4	Novel devices for high frequency, integrated (opto)electronics, and IoT	Examination
NT01	Characterization techniques	Examination
NT04	Nanofabrication techniques	Examination

Research

All candidates are required to complete thirty research skills sessions (reference: RSS) and two mini-projects (reference: MP1 and MP2).

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Integrated Photonic and Electronic Systems for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Integrated Photonic and Electronic Systems for the degree of Master of Research (*Statutes and Ordinances*, p. 551) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Fundamentals

4E11

UCLTBE

Strategic management

Telecommunication business environment

4D11	DI	F : 4
4B11	Photonic systems	Examination
4G2	Biosensors	Coursework
UCLAPD	Advanced photonic devices	Examination
UCLPON	Physics and optics of nano-structure	Coursework and examination
UCLBTC	Broadband technologies and components	Examination
Systems		
4B23	Optical fibre communication	Coursework and examination
4B24	Radio frequency systems	Coursework and examination
UCLOTN	Optical transmission and networks	Examination
UCLPSS	Photonic sub-systems	Examination
Business		
4E4	Management of technology	Coursework

10.1	4.0	
147	ectives	8

4B6	Solid state devices and chemical/biological sensors	Examination
4B13	Electronic sensors and instrumentation	Examination
4B21	Analogue integrated circuits	Examination
4B22	Flexible electronics	Examination
4B25	Embedded systems for the internet of things	Coursework
4F2	Robust and nonlinear systems and control	Examination
4F5	Advanced communications and coding	Examination
4F7	Digital filters and spectrum estimation	Examination
4F8	Image processing and image coding	Examination
4F12	Computer vision	Examination
P33	Building an internet router	Coursework
R02	Network architecture	Coursework
UCLSNS	Software for network services and design	Coursework
UCLOTN	Optical transmission and networks	Examination
UCLNH	Nanotechnology and healthcare	Examination
UCLRCD	RF circuits and devices	Coursework and examination
UCLBCL	Broadband communications lab	Coursework
UCLEEM010	Analogue CMOS IC design and applications	Coursework

All modules beginning 'UCL' are provided and examined by University College, London.

Research

All candidates are required to complete two project reports (references: MP1 and MP2).

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Sensor Technologies and Applications for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Sensor Technologies and Applications for the degree of Master of Research (*Statutes and Ordinances*, p. 553) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Core modules (all compulsory)

STA1	Principles of sensing	Coursework
STA2	Guided sensor design project	Coursework
ETech	Introduction to entrepreneurship	Coursework

Elective modules (three to be chosen in consultation with the Course Director)

BIOPR	Biological physics (principles)	Examination
4B5	Nanotechnology	Coursework and examination
4B6	Solid state devices and chemical/biological sensors	Examination
4B11	Photonic systems	Examination
4B13	Electronic sensors and instrumentation	Examination
4B22	Flexible electronics	Examination
4B25	Embedded systems for the internet of things	Coursework
4C3	Electrical and nano materials	Examination
4C15	MEMS design	Coursework and examination
4E12	Project management	Coursework
4F8	Image processing and image coding	Examination
4F12	Computer vision	Examination
4F13	Probabilistic machine learning	Coursework
4G2	Biosensors	Coursework
418	Medical physics	Examination
4M20	Robotics	Coursework
B5	Optical imaging and microscopy	Examination
C8	Biological physics (techniques)	Examination
IDP1	Atmospheric chemistry and global change	Examination
MLMI4	Advanced machine learning	Coursework

NT01	Nanotechnology characterization techniques	Examination
NT08	Bionanotechnology	Examination
R214	Biomedical information processing	Coursework

Research

All candidates are required to complete an individual mini-project report (reference: MP1) and a 'Sensor Team Challenge' project report (reference: GP1).

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

Examination in Ultra Precision Engineering for the degree of Master of Research, 2018–19

The Degree Committee for the Faculty of Engineering gives notice that the modules available to candidates studying the one-year course in Ultra Precision Engineering for the degree of Master of Research (*Statutes and Ordinances*, p. 553) in the academical year 2018–19, and the form of examination of each module, will be as follows:

Compulsory modules

CRA2	Introduction to metrology	Coursework
CRA8	Additive and subtractive manufacturing technologies	Coursework
P3	Energy beam micro processing	Coursework
4E4	Management of technology	Coursework
FOM	Fundamentals of metrology	Coursework

Laboratory classes (all compulsory)

LAB1	CNT and roll-to-roll fabrication laboratory class	Coursework
LAB2	Laser machining and metrology laboratory class	Coursework
LAB3	Practical metrology laboratory class	Coursework
LAB4	FIB/SEM/EDS laboratory class	Coursework
CRA4	Machine modal analysis laboratory class	Coursework
CRA5	Test and measurement laboratory class	Coursework
CRA6	Single point diamond turning laboratory class	Coursework
CRA7	Precision micromachining laboratory class	Coursework

Research

All candidates are required to complete two project reports (reference: RP1 and RP2), and must participate in the Advanced Manufacturing Technologies Reading Club (reference: RC13).

The Degree Committee for the Faculty of Engineering may issue amendments to the above lists during the Michaelmas Term 2018, provided that no candidate's preparation for the examination will be affected by the change.

REPORTS

Joint Report of the Council and the General Board on amendments to Special Ordinance D (v) concerning precautionary action

The COUNCIL and the GENERAL BOARD beg leave to report to the University as follows:

- 1. In 2016–17, two new student procedures were adopted, one enabling immediate precautionary action to be taken whilst an investigation was ongoing, and the other concerning the handling of cases following a report of harassment or sexual misconduct (*Reporter*, 6452, 2016–17, p. 326). Following a review of the cases that have arisen in the last year, a small number of minor changes have been suggested to improve the accessibility and administration of the procedures. The changes to the procedure concerning cases of student harassment and sexual misconduct that have been approved by the Council are set out in the Notice on p. 841. This Report puts forward proposed amendments to the Special Ordinance concerning precautionary action.
- 2. The review took account of comments from those who have been involved in cases relating to sexual misconduct.

- The recommendations have the support of the Council, the General Board, the General Board's Education Committee, the Senior Tutors' Committee, the Welfare and Finance Committee, and the Health and Wellbeing Committee.
- 3. The Council and the General Board have accepted the recommendations of the review, which proposed changes to address the following points:
 - (i) the current risk assessment process could be improved in some cases by requiring the student to undergo an assessment conducted by a person with relevant expert knowledge;
 - (ii) there might be occasions when it was appropriate to take precautionary action during a formal investigation by a College, as well as during a formal investigation by the University or the police.
- 4. The Council and the General Board recommend that in Special Ordinance D (v) (Statutes and Ordinances, p. 98):
 - (i) Section 1(b) be amended to read as follows:
 - (b) to protect any person while any matter is being dealt with under a procedure in the University, or in a College at the request or with the support of the College concerned, or as part of a criminal process;
 - (ii) New Section 4 be inserted as follows and the remaining sections renumbered:
 - **4.** In considering whether any precautionary measures are necessary under Section 1, the Academic Secretary may seek medical or other expert advice and may require the person to attend an assessment for the purpose of obtaining that advice.

23 July 2018	STEPHEN TOOPE, Vice-Chancellor ROSS ANDERSON STEPHEN J. COWLEY NICHOLAS GAY DAVID GREENAWAY	JENNIFER HIRST NICHOLAS HOLMES ALICE HUTCHINGS FIONA KARET JEREMY MORRIS	Susan Oosthuizen Sofia Ropek-Hewson John Shakeshaft Sara Weller
11 July 2018	STEPHEN TOOPE, Vice-Chancellor PHILIP ALLMENDINGER ABIGAIL FOWDEN A. L. GREER NICHOLAS HOLMES	MATTHEW KITE PATRICK MAXWELL MARTIN MILLETT RICHARD PRAGER SUSAN RANKIN	SOFIA ROPEK-HEWSON HELEN THOMPSON GRAHAM VIRGO MARK WORMALD

CLASS-LISTS

Approved for degrees

GRACES

Graces submitted to the Regent House on 25 July 2018

The Council submits the following Graces to the Regent House. These Graces, unless they are withdrawn or a ballot is requested in accordance with the regulations for Graces of the Regent House (*Statutes and Ordinances*, p. 105) will be deemed to have been approved at 4 p.m. on Friday, 3 August 2018.

- **1.** That Professor David Anthony Cardwell, *F*, be appointed a member of the Finance Committee in class (*e*) to serve from 1 August 2018 until 31 December 2020.
- **2.** That the recommendations in paragraph 7 of the Second-stage Report of the Council, dated 29 June 2018, on the alteration and refurbishment of two buildings on the Old Addenbrooke's site (*Reporter*, 6513, 2017–18, p. 763) be approved.
- **3.** That the recommendation in paragraph 6 of the Report of the Council, dated 4 July 2018, on a new Crop Science Building and associated facilities (*Reporter*, 6513, 2017–18, p. 765) be approved.
- **4.** That Regulation 10 of the regulations for Residence and Precincts of the University (*Statutes and Ordinances*, p. 176) be rescinded and new Regulation 7 inserted in the regulations for Allowances to Candidates for Examinations (as approved by Grace 3 of 27 June 2018) and the remaining regulations renumbered.¹
 - **7.** In circumstances which interfere with the normal tenor of residence of a large number of students, the Council may grant allowances of terms, in addition to the allowances hereinbefore provided, to students who fulfil such conditions as the Council may specify.
- **5.** That in Regulation 7 of the regulations for Cambridge University Students' Union (*Statutes and Ordinances*, p. 189) the reference to the Council be replaced with a reference to the General Board and the reference to Regulation 1(b) or 3(a)(i) for Allowances to Candidates for Examinations be replaced with a reference only to Regulation 1(b) of those regulations.
- **6.** That in Regulation 5 of the regulations for the Carus Prizes (*Statutes and Ordinances*, p. 796) the reference to the Board of Examinations be replaced with a reference to the Registrary.¹
- ¹ The Council is proposing these changes, which were omitted in error from the Joint Report of the Council and the General Board on the governance of examinations and assessment (*Reporter*, 6509, 2017–18, p. 672), as approved by Grace 3 of 27 June 2018 (see also p. 849). If Grace 4 is approved, a consequential change will be made to the Rules made by the General Board in accordance with Regulation 11 for the election of student members of the Faculty Boards and other bodies (reproduced in *Statutes and Ordinances*, p. 610).

ACTA

Degree of Bachelor of Medicine

In pursuance of the special regulations for the conferment of the degrees of Bachelor of Medicine and Bachelor of Surgery (*Statutes and Ordinances*, p. 475) the degree of Bachelor of Medicine was conferred on 25 June 2018 upon the following persons who received the degree of Bachelor of Surgery on 23 June 2017.

Degree of Bachelor of Surgery

In pursuance of the special regulations for the conferment of the degrees of Bachelor of Medicine and Bachelor of Surgery (*Statutes and Ordinances*, p. 475), the degree of Bachelor of Surgery was conferred on 14 May 2018 upon the following persons:

This content has been removed as it contains personal information.
Congregation of the Regent House on 28 June 2018: Correction
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information.
This content has been removed as it contains personal information. Congregation of the Regent House on 30 June 2018: Correction
Congregation of the Regent House on 30 June 2018: Correction

Congregation of the Regent House on 20 July 2018

A Congregation of the Regent House was held at 10 a.m. All the Graces that were submitted to the Regent House (*Reporter*, 6515, 2017–18, p. 834) were approved.

The following degrees were conferred:

Congregation of the Regent House on 21 July 2018

A Congregation of the Regent House was held at 10 a.m. All the Graces that were submitted to the Regent House (*Reporter*, 6515, 2017–18, p. 835) were approved.

The following degrees were conferred:

This content has been removed as it contains personal information.

E. M. C. RAMPTON, Registrary

REPORT OF DISCUSSION

Tuesday, 17 July 2018

A Discussion was held in the Senate-House. Deputy Vice-Chancellor Mr Stuart Laing was presiding, with the Registrary's deputy, the Deputy Junior Proctor, the Junior Pro-Proctor, and three other persons present.

The following Reports were discussed:

Second-stage Report of the Council, dated 29 June 2018, on the alteration and refurbishment of two buildings on the Old Addenbrooke's site (Reporter, 6513, 2017–18, p. 763).

No remarks were made on this Report.

Report of the Council, dated 4 July 2018, on a new Crop Science Building and associated facilities (Reporter, 6513, 2017–18, p. 765).

No remarks were made on this Report.

COLLEGE NOTICES

Awards and Prizes

Queens' College: A list of distinctions and prizes awarded for the 2017–18 academical year is available on the Queens' College website at: https://www.queens.cam.ac.uk/teaching-learning/distinctions-and-awards/undergraduate-college-prizes-and-awards/prizes-2018

Elections

Peterhouse

Elected to an Official Fellowship and College Lectureship in History with effect from 1 September 2018:

Geraint Llyr Thomas, B.Sc., LSE, M.Phil., Ph.D., EM

Elected to an Official Fellowship and College Lectureship in Mathematics with effect from 1 October 2018:

Johannes Benedict Hofmann, Dip.Phys., *Erlangen*, M.A., Ph.D., *JN*

Elected to a Bye-Fellowship with effect from 1 October 2018:

Christopher Thomas Rodgers, M.Chem., D.Phil., Oxford Timothy Gordon Barnes, B.A., Yale, Ph.D., Harvard

Elected to a Research Fellowship with effect from 1 October 2018:

Patrick Milton, M.A., Ph.D., PET, M.A., Warwick

Vacancies

Christ's College: Stipendiary Junior Research Fellowship in a specified area of Arts, Humanities, and Social Sciences; tenure: four years; closing date: 25 October 2018 at 12 noon; further details: http://www.christs.cam.ac.uk/jrf

Fitzwilliam College: The Governing Body of Fitzwilliam College is seeking to elect a new Master, from 1 October 2019, in succession to Professor Nicky Padfield; closing date: 31 August 2018; further details: https://www.fitz.cam.ac.uk/vacancies/academic or from Moloney Search, who are managing the application process (https://moloneysearch.com/home)

Jesus College: Research Fellowships (two in Arts and one in Science); tenure: three years from 1 October 2019; salary: starting from £21,585, plus subsidised housing and meals; closing date: 30 August 2018; further details (available from 27 July 2018): http://www.jesus.cam.ac.uk/fellows-staff/vacancies/

Magdalene College: Outreach Fellows (two posts), to assist with events and projects aimed at widening participation; 0.1 FTE; salary: £2,500; closing date: 24 August 2018; further details: https://www.magd.cam.ac.uk/about/vacancies

Queens' College: Junior Research Fellowships in Geography and in History; to commence on 1 October 2019; stipend: starting at £22,214, plus benefits; closing date: 7 September 2018 at 12 noon; further details: http://www.queens.cam.ac.uk/general-information/vacancies

Trinity College: The Fellows of Trinity College are seeking to elect a new Master, from 1 October 2019, to succeed Professor Sir Gregory Winter; direct applications and nominations submitted by Fellows of the College are welcome; further information: http://www.trin.cam.ac.uk/master or from Professor Grae Worster (email: master. applications@trin.cam.ac.uk or tel.: 01223 338593)

© 2018 The Chancellor, Masters, and Scholars of the University of Cambridge.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of the University of Cambridge, or as expressly permitted by law.

The University is the owner or the licensee of all intellectual property rights in the site and in the material published on it. Those works are protected by copyright laws and treaties around the world. All such rights are reserved.