

Biannual meeting of the Directors of Studies in Mathematics

MINUTES

Date and time: Friday 18 May 2018, 11:00 am

Venue: Room MR5, Centre for Mathematical Sciences

Chair: Ross Lawther (DoS Convenor, Girton)

Present: Sebastian Andres (Jesus), Anthony Ashton (Homerton), Irena Borzým (St Catharine's), Wayne Boucher (Sidney Sussex), Chris Brookes (Corpus), Jack Button (Selwyn), Maurice Chiodo (King's), Stephen Cowley (Emmanuel), Maciej Dunajski (Clare), Jonathan Evans (Gonville and Caius), Thomas Forster (Clare Hall), Berry Groisman (Sidney Sussex), Anders Hansen (Peterhouse), Robert Hunt (Christ's), John Lister (Trinity/Chair of Teaching Committee ex officio), Orsola Rath-Spivack (Lucy Cavendish), Ron Reid-Edwards (Trinity Hall), John Ryan (St John's), Matthew Saxton (Queens'), Stephen Siklos (Jesus), Gareth Taylor (Jesus), Chris Tout (Churchill), Clive Wells (Hughes Hall), András Zsák (Peterhouse)

Apologies: Stergios Antonakoudis (Emmanuel), Rachel Camina (Fitzwilliam), Colm Caulfield (Churchill College/Part III Chair ex officio), Nilanjana Datta (Pembroke), Sophia Demoulini (Downing), Anita Faul (Selwyn), Holly Krieger (Murray Edwards), Stuart Martin (Magdalene), Peter O'Donnell (St Edmund's), Simon Wadsley (Homerton), Chris Warner (Robinson), Grae Worster (Chair of Faculty Board ex officio).

Notes for the Minutes: Sarah Jefferys (Faculty Administrator)

1. Apologies

The Chair (Dr Lawther) welcomed everyone to the meeting and read out the list of apologies. He welcomed Andrew Thomason, incoming Chair of the Faculty Board, attending in place of the current Faculty Board Chair. Dr Lawther advised that Chris Warner was unable to attend the meeting but he would email the group regarding Convenor matters.

ACTION: Chris Warner

2. Declarations of interest

There were no declarations of interest.

3. Minutes of the previous meeting on 14 November 2017

The minutes of the previous meeting were circulated and reviewed prior to the meeting. These were approved and will be uploaded to the website.

ACTION: Undergraduate Office

4. Matters arising from previous meeting(s)

(a) The following nominations to serve on the Part III Permissions Committee have been approved by the Faculty Board:

Irena Borzým	for three years from 1 January 2018
Alexandre Bouayad	for one year from 1 January 2018

(b) Use of Moodle for archiving and distribution of DoS Meeting paperwork

At the meeting held on 14 November 2017 it was agreed that agenda packs, individual papers and minutes should be uploaded to Moodle. Dr Lawther confirmed that the Moodle site has been created and is a work in progress.

ACTION: Undergraduate Office

(c) Style of DoS Meeting minutes

Dr Lawther asked the DoS to consider what level of detail of discussions held in the meeting should be presented in the minutes. It was agreed that the minutes should record individual comments in order to provide a context for decisions taken. Dr Borzym pointed out that there is a lot of turnover in the DoS positions and not every DoS can make the meetings and as such it is useful to know who raised particular points in order to follow up or find out more information.

5. Admission matters

a) STEP

Dr Siklos reported on the STEP preparation offered by NRICH which had previously run an Easter school and now provided online preparation and 3 one-day schools in Cambridge. Dr Siklos reported that the essential funding required by the NRICH team to continue to provide these resources was not agreed for future years and he urged the DoS to encourage their Bursars to take action. Dr Borzym suggested that the DoS send a formal, collective, letter to the Bursars copied to the Senior Tutors to stress the importance of the continuation of the funding in order to widen participation.

Dr Groisman suggested that, since some Colleges struggle to spend their budgets for outreach and impact, this might be reassigned to the STEP support. Dr Rath-Spivack suggested that Cambridge Admissions Office funding could be redirected for STEP support days.

The DoS agreed to send a letter to the College Bursars and Senior Tutors.

ACTION: DoS Convenor

Dr Siklos reminded the DoS about the new A level syllabus to be examined in 2019 and advised that STEP revisions are taking place and that a new STEP syllabus will be available in June.

Dr Siklos reported that scripts marked in June will be completely anonymous, featuring a cover sheet which is removed and a barcode on every page. He advised that there are restrictions on how many hours graduate students can work and markers are being recruited from MMath.

Dr Siklos reported that the 2019 papers will no longer have the formula book with them and that statistical papers will not be used but that relevant information will be given in the question.

b) MUAC

The unconfirmed minutes of the MUAC meeting held on 21 February 2018 were circulated to the DoS as an agenda paper, together with a report from the MUAC to the DoS.

Flexible Offer

Dr Cowley advised that the Admissions Forum has agreed to 10 Colleges trialling a flexible admission offer and that a wording had been agreed both for the University prospectus and for the Faculty and College websites. This wording is featured on the Faculty website and other documents and is included in the report from the Faculty Admissions Officer circulated for this meeting under Item 5c.

Treatment of Mathematics A-level when taken in Y12

Dr Cowley advised that it had been incorrectly reported that Cambridge would not accept a Mathematics A-level taken in Year 12 as part of an offer. Although this had been corrected, some people may still believe that offers will be based on 'A' levels taken in Year 13 only.

Pre-admission testing and the loss of UMS

Dr Cowley advised the DoS that the MUAC had been notified of concern among Admissions Tutors that when Mathematics UMS disappear there may be a significantly higher number of applicants. He asked the DoS if they would like the MUAC to consider a contingency plan for the 2020 admissions round, should there be an unmanageable increase in the number of applicants this year, e.g. use of the MAT or the TMUA as a filter.

Dr Siklos noted that Trinity give applicants only one interview and that this works well as a means to reduce the number of interviews given by DoS and could perhaps be combined with a test. Dr Cowley commented that Trinity deselect 20% of students. Dr Borzym suggested that there is value in having a second interview conducted by someone else and advised that St Catherine's had adopted a policy over the last couple of years of each interview being conducted by someone with interview experience and a PhD student, which makes it easier to find interviewers and is good experience for the PhD students, although there is a cost involved.

Dr Dunajski reminded the DoS that there are restrictions on the number of hours that PhD students are allowed to work.

Dr Rath-Spivack advised that Colleges have agreed to interview more if necessary and that it would be worth waiting to see what happens this year before making any changes to the interview process. Dr Hunt commented on the system used in Oxford which comprised a 30 minute interview and a test which kept the work down. If a candidate scored above a certain threshold, they would be invited to a second interview. Dr Lawther commented that the process may not have been transparent to the students. Dr Chiodo advised that King's follows a similar process which results in a tight timetable for the interviewers having to decide whom to invite for a second interview and around 70-80% of applicants receiving a second interview, thereby not reducing the work involved by very much.

It was agreed that the MUAC should consider in advance how to deal with an unmanageable increase in applications should this arise, since preparations starting late in Michaelmas would not be soon enough. Dr Rath-Spivack stressed that for this round it may be worth considering how interviews are conducted, but not ways of deselecting, as this would involve a reputational risk since it would not be announced to applicants in advance.

ACTION: Chair of the MUAC

Success of State School applicants

Dr Cowley had circulated a table on 'Applications, offers and acceptances to Cambridge by subject and school type 2016', indicating the comparative acceptance rates of state school and independent school applicants. He drew the Board's attention to the figures which show that while Mathematics has the second highest number of 'home' applicants from state schools (84.4%), the percentage of 'home' acceptances from state schools (68.8%) is the seventh highest number and above the University target of 64%. Further the acceptance rate of state schools is only 14.9%, compared to 36.6% for independent schools, which places Mathematics essentially at the bottom of the table when compared to other subjects.

Dr Borzým commented that whilst this is a problem it is not one that can easily be addressed by the DoS since the issue originates at school teaching level and often students are badly prepared for STEP.

College and Faculty websites

Dr Cowley reminded the DoS that comments and suggestions for the Faculty Admissions website are always welcome and he asked the DoS to review the content and to feed back any comments. He also urged the DoS to check their own College websites, in particular to check that there are no links to out-of-date admissions documents. He recommended that generalised links should be used and asked that College sites link to the Faculty site rather than downloading the booklet on to their own websites.

Interview forms

Dr Cowley reported that it has been noted at recent MUAC meetings that information entered on interview report forms can be of variable quality and he reminded the DoS that minimal comments are not helpful for those fishing from the pool, and are not in the best interests of the applicants. He also reminded the DoS that the students are able to view the comments made.

Pooling

Dr Cowley reported that the MUAC would ask that Colleges review carefully candidates who are not pooled as some mistakes had been made recently which resulted in a higher than usual number of queries. Dr Rath-Spivack advised that there are no automatic pooling criteria for Mathematics, although some Colleges follow internal guidelines to pool candidates with particular A-levels for example. Dr Rath-Spivack offered to check the guidelines on this.

ACTION: Dr Rath-Spivack

Dr Borzým mentioned that she advises applicants if they were put in the pool as part of their feedback letter but that practice varies among Colleges.

Contingency Interviewers

Dr Cowley asked the DoS to consider whether it would be beneficial for contingency arrangements for all Colleges to be coordinated by the Faculty i.e. to create a group of experienced 'extra interviewers' on standby should an interviewer become unexpectedly unavailable. Dr Chiodo asked if the DoS could be given a list of people who could be contacted if needed. It was noted that if an emergency were to arise, an individual could email the list of DoS to ask for assistance. Dr Borzým suggested an online form for those willing to interview to register their interest. It was agreed that Dr Cowley and Dr Rath-Spivack would consider over the summer what might be the best way to provide contingency arrangements.

ACTION: Dr Cowley and Dr Rath-Spivack

c) Faculty Admissions Officer

A report from the Faculty Admissions Officer was circulated as an agenda paper.

Open Days

Dr Rath-Spivack reported that the feedback from attendees had been good and that it was clear that the revised arrangements for open days have been successful, including an increased provision of interview practice. She advised that this year the majority of the student participants' data will be input to the HEAT database which will track subsequent participation in Higher Education, whether in Cambridge or elsewhere in the UK.

The DoS recorded their thanks to Dr Rath-Spivack and congratulated her on the success of the events.

Dr Rath-Spivack reported that there had been concern expressed about commercial providers of STEP support advertising at the open days. She explained that Faculty members were not aware that this was happening at the time and so had not challenged it. The DoS agreed that this is highly undesirable and implies an advantage to those able and willing to pay for additional support. Dr Rath-Spivack advised the DoS that the issue of commercial providers of STEP support had been discussed by the Admissions Forum and the Senior Tutors Committee, and that guidelines would be published in future. She advised that there is information on the Faculty website for the students on the STEP support provided, and said that she would review this and make it more prominent, and also include it on the open day page. The DoS agreed that it must be made clear to prospective students what support is provided and that anything else is not supported by the Faculty.

ACTION: Dr Rath-Spivack

Dr Ashton suggested that at future events a disclaimer could be made at the start of each talk to make it clear that commercial providers of STEP support are unofficial and not supported by the Faculty.

Dr Rath-Spivack recommended that every College should publicise the STEP support provided by the Faculty and also the interview practice provided at the Faculty open days.

Outreach

Dr Rath-Spivack's circulated report gave details of other outreach which had taken place across the Faculty and included some of the many activities co-ordinated by MMP.

Admissions Policy

Recommended wording on the flexible offer was provided in the circulated report. The DoS were asked to check their College online and written information to ensure that it agrees with the approved wording.

ACTION: ALL

Non-Cambridge summer schools hosted in Cambridge Colleges

The circulated report drew the attention of the DoS to the issue of commercial summer schools being hosted in Cambridge Colleges. This had been discussed by the Senior Tutors Committee and the minute of the meeting was provided.

6. Tripos matters

a) Joint DoS-Faculty Board working group concerning Resource Audit

The DoS received as an agenda item the draft report of the Joint Working Group for Resource Audit, Chaired by Professor Caulfield, who had sent his apologies for the meeting as he was attending a conference. The DoS noted that the draft was intended as a summary of the group's discussions and a basis for further discussion. Dr Evans, a member of the working group, presented some of the findings of the report and advised that the DoS should be reassured that the data suggests that the supervision system is sustainable and that issues are more a result of allocation rather than lack of resources.

Professor Lister objected strongly to the tone of the report, in his capacity as Director of Study for Trinity, arguing that Trinity is much more efficient in its allocation of resources than any of the circuses and advising that PhD supervisors at Trinity do many more than the 20 hours per year

quoted in the report because there is the internal flexibility to give them the courses they want to teach and they have a lot of students and so resources are not wasted. Professor Lister reported on the efficient functioning of the Trinity applied circus, which serves Trinity Hall, Clare, Kings, St. Catharine's, Robinson, and Peterhouse and in which those Colleges provide a list of requirements, and Trinity makes the arrangements on their behalf (coordinating about 80 hours per week of applied supervisions). He explained that it is a very important part of the internal process to be able to look across all three years to balance variable demands in both Parts IB and II in order to fully utilize all of the available resources, and argued that the "nationalization" of Part II would create an organizational barrier between Part II and Part IA/IB, reduce flexibility, increase conflicts of interest, and thus decrease overall efficiency.

Professor Lister acknowledged that there would be advantages to Faculty coordination of the isolated new specialist courses in AFL and QIC but argued that this does not mean that it will be successful if rolled out across Part II and that the patchy and uncoordinated quality of Part III examples classes should serve as a warning. He noted that the report suggests that the Queen's circus is functioning fairly well and suggested that the other two circuses, perhaps in combination, could do the same, particularly if recommendations were adopted to increase the information flow. Professor Lister also argued that centralisation will not improve the quality of teaching since the connection between DoS and individual students is much more informative than any of the Faculty's feedback mechanisms.

Dr Hunt suggested that there may be economies of scale that could be made since in some Colleges there may be one DoS who is trying to co-ordinate everything alone. Dr Cowley pointed out that in some cases every College is trying to use the same supervisors and it may be just as easy to co-ordinate a subject for everyone. He advised that in some cases individuals who could have supervised for Part II have already been assigned elsewhere for IA and IB and so it would be beneficial to consider Parts IA, IB and II together.

Professor Lister advised that Financial Models and Probability had an 80% increase in uptake by students and it had been difficult to find supervisors from the Statistical Laboratory. Dr Evans stated that where possible the DoS should plan in advance since it would be helpful to know if there is an expected increase in a particular area. He pointed out that initial feedback on student numbers would be helpful for this and that some degree of centralisation would be beneficial to the process. Professor Lister suggested that the DoS could hold a meeting to plan for this and that perhaps smaller Colleges might agree to work in pairs.

Dr Evans suggested that the Faculty could produce a list of potential supervisors. Professor Lister argued that the DoS are able to discuss issues as they arise and that there is no need to impose bureaucracy on the system. He also suggested that the Faculty could make more use of postdocs as a teaching resource. Dr Andres suggested that Heads of Department make it clear to new appointees that there is an expectation for them to contribute.

The DoS noted that a draft report would go to the next meeting of the Faculty Board to be held on 24 May 2018. It was agreed that although there had been considerable discussion of the issues presented, there was a lack of agreement among the DoS on the way forward.

b) Lecture theatre provision for Part IA in 2018/19

Dr Evans reported that the University appears to be looking favourably on the Faculty's representation for IA lectures to be held in the Babbage theatre next year, following the planned demolition of the Cockcroft lecture theatre. The proposal is to follow the traditional pattern of 10-12 Monday to Saturday. Dr Evans explained that there had been a change this year to compensate changes made to IA Physics lectures. He advised that the new timetable prevents Mathematics with Physics students from attending the additional (non-examinable) Mathematics courses and that careful timetabling would be required for Mathematics with Physics. Furthermore, some form of alternative provision of the non-examinable material for Mathematics with Physics students will be needed. The DoS discussed other possible means of providing the material, including lecture capture, PhD students presenting the material at another time, or a shortened lecture course to take place later. Dr Groisman expressed a concern that providing separate lecturing might set a precedent and the Faculty would be obliged to do this for other courses. Dr Cowley pointed out that it is important that the Analysis and Probability courses do not use material from Numbers and Sets.

c) CATAM

The DoS had received as an agenda item a paper from the Chair of the Teaching Committee on proposed changes to CATAM for 2018/19 and a letter to the Chair of the Teaching Committee from Dr Cowley as Chair of CPAC, which made a number of recommendations for the Teaching Committee (or some other body) to consider, following the external examiners' reports. The DoS considered the recommendations made by the Teaching Committee, intended to be presented to the next meeting of the Faculty Board.

Dr Cowley highlighted the issue of how to allocate credit when a student offers more than 30 units (Part II CATAM carries up to 30 units and 150 marks). Dr Hunt commented that students are convinced that they need to submit at least 30 marks. Dr Cowley said they should be advised to stop at around 28 units. The DoS considered the recommendation of the Teaching Committee which was analogous to discarding the weaker attempts in Parts IA and IB. Professor Lister suggested that this could be revisited next year after it had been tested, and a report could be produced in Michaelmas 2019.

ACTION: Chair of the Teaching Committee

The DoS agreed that CATAM marks do not always fit easily into the criteria. Dr Hunt suggested that the introduction of variable marks would be beneficial, and that having the freedom to vary the computational and theory marks would be very useful. Dr Cowley explained that the examining system is already quite complex and that simplicity is an important factor to ensure transparency for students.

Dr Andres questioned whether the excellence mark is needed and asked whether it is already reflected in the theory mark for using references or testing code for example, although there are no marks available for good presentation of projects under this heading.

Dr Cowley reported on supervisions for introductory classes and advised that not all Colleges provide this. Dr Borzym suggested that the departments need to make sure that there are enough supervisors. Dr Hunt advised that Christ's College gives two classes to consider how long the CATAM projects take and suggested that every College should be required to give some type of support.

Professor Lister suggested that if CPAC were to organise the classes, the Colleges might pay for the students to attend.

Professor Lister commented that the feedback given to students is not technical but on writing up and that someone who is on the CPAC would be in the best position to give useful feedback. Dr Cowley pointed out that there is a model answer and Dr Evans suggested that a wider scope for what is offered might be considered and that the Faculty might need to be a bit more specific about what should be covered.

Dr Cowley noted that there had been attempts in the past to encourage the Colleges to get more involved and these had failed, so it was necessary to ask the Faculty or CPAC to offer guidance on what should be in the introductory classes and/or to provide a list of who could give the classes.

Dr Borzym suggested that a class could be given on a practice project with material online.

Dr Dunajski commented that if supervisions are discontinued, this might discourage students from target areas.

Dr Cowley advised the DoS that there had been a case of plagiarism in CATAM this year.

d) Part III revision classes and mock exam

Dr Forster requested that the DoS ask the Faculty to take on the task of planning revision example classes for future years, to coordinate the provision and ensure there are no clashes.

Dr Forster also advised that he had arranged a mock exam for Part III students this year and requested that the DoS ask the Faculty to take charge of this for future years. He also advised that the Student Registry had not allowed access to exam stationery. Dr Chiodo commented that he was fully supportive of the mock exam taking place as it was so beneficial to students, particularly those who did not study for their Undergraduate degree at Cambridge.

The DoS agreed that both issues should be brought to the attention of the new Director of Postgraduate Taught Education for her consideration.

ACTION: Chair of the Part III Committee

7. Directors of Studies meetings: guidance for convenor and rota

A guidance note and rota were circulated for information. The DoS noted that the next convenor will be from Murray Edwards College.

8. Any other business

Dr Martin submitted an item asking for expressions of interest for a Maths admissions interviewer to join the overseas interviewing team who go to India (17-20 November in Mumbai). Anyone interested should let Dr Martin know. Since many members had left by this point in the meeting, it was agreed that the DoS Convenor would circulate the information to the DoS via email.

ACTION: DoS Convenor

9. Date of next meeting

Tuesday 13 November 2018, 2.00pm, Room MR5

The meeting concluded at 1:30 PM.