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1. Introduction

The MPhil in Computational Biology has been developed by the Cambridge Computational Biology Institute (CCBI) and is run by the Department of Applied Mathematics and Theoretical Physics (DAMTP) at the Centre for Mathematical Sciences (CMS). DAMTP is one of two departments in the Faculty of Mathematics; the other being the Department of Pure Mathematics and Mathematical Statistics (DPMMS). The Faculty is part of the School of Physical Sciences.

This handbook provides administrative and other important information for MPhil students. In addition to this handbook there is a Moodle site (https://www.vle.cam.ac.uk/login/index.php) which is the main repository for all materials, documentation and coursework submissions (all students will be given access at the start of the academic year). See Section 3 – General Administration and Section 9 – Assessment and Examination for further information.

2. Key Contacts 2018-19

Course Directors  
Dr Stephen Eglen (G0.11, 65761)  
Email: ccbi-mphil-directors@damtp.cam.ac.uk

Director of CCBI  
Dr Gos Micklem (G0.07, 60397)

Module Leaders  
Dr Oscar Rueda (Functional Genomics)  
Dr Alastair Crisp (Genome Informatics)  
Dr Aylwyn Scally (Genome Sequence Analysis)  
Dr Stephen Eglen (Scientific Programming)  
Dr Stephen Eglen (Computational Neuroscience)  
Dr Stephen Eglen (Theory and Practice of Deep Learning)  
Dr Chris Illingworth (Population Genetics)  
Dr Stephanie Reichelt (Biological Imaging and Analysis)  
Dr Florian Markowetz (Cancer Evolution)

MPhil Students  
Maths-cbmphil-students@lists.cam.ac.uk  
All MPhil students are subscribed to this list (see Section 15).

Course Administrator  
Aurora Gutierrez Antonio, Graduate Office (C0.15, 37966)  
Email: compbiomphil@maths.cam.ac.uk

3. General Information

Induction and preliminary courses
At the start of the year you will be invited to attend an Induction Meeting in which administrative and other information about the course will be distributed. This year the meeting will take place on Monday 1st October 2018. All students are required to attend this meeting. The Introduction to Unix will be on the Monday afternoon. The Introduction to Molecular Biology will commence Wednesday 3rd October. A timetable will be circulated. If you are unable to attend this meeting for any reason, you must let the Course Administrator know.

Lectures
Most lectures will take place during University terms with lectures commencing on the first Thursday of full term (see Section 4 – Calendar for dates). Occasionally lectures may be scheduled outside of
The use of audio/visual recording equipment (e.g. ipods, cell phones) in lectures is not permitted without the prior consent of the lecturer. If you have a particular need to record lectures, other than taking notes, please contact the Course Administrator.

**Moodle**

All students and staff associated with the MPhil course will be given access to the Course Moodle at the start of the year. Moodle is the main repository for course materials and documentation.

**Weekly seminar and tea**

During Michaelmas and Lent terms a weekly seminar is held every Wednesday, 2-3pm in MR4. The seminars are not assessed, but are compulsory and you are expected to attend each week. A programme of speakers and their topics will be posted on Moodle. The seminar is followed by a weekly tea in the Pavilion G common room. This is a chance for you to meet informally with each other, speakers and members of staff.

The aim of the seminar is to provide students with potential opportunities and resources that may not be provided by the taught modules. In particular the seminars provide an opportunity to meet local researchers who may well have research positions they want to fill, be it summer internships or PhD posts. Each week a researcher from Cambridge (either within the University, related academic sites or from local industry) will speak about their research. We aim to invite a diverse range of speakers from across the spectrum of Computational Biology to demonstrate the wide range of application areas, and we will ask for students to volunteer to host the speakers.

**Residence**

The MPhil is a full-time course which runs from October to the end of August. The last day of the course is 31st August. During term time students are expected to be resident in Cambridge. They may also be expected to participate in activities outside of term (which are principally set for the delivery of undergraduate programmes). Students should note that it is a requirement of the MPhil degree that they are resident in Cambridge for three terms. To keep residence they must attend for a certain number of days in each term. In order to meet the requirement for Easter, students whose internship is to be held outside of Cambridge must spend 53 nights in Cambridge between 10th April and 18th June (unless Full Term begins after 22nd April, in which case between 17th April and 25th June) and you will need to apply formally for Leave to Work Away from the University (https://www.cambridgestudents.cam.ac.uk/your-course/graduate-study/your-student-status/work-away-cambridge).

Please discuss this with the Course Administrator if you are uncertain if you will meet the requirement.

**Course representative**

Once you have had time to get to know one another we will ask you to elect a fellow student as a course representative. The role of the course representative is to provide feedback to us on any issues regarding the course, such as coursework and teaching. Further information will be circulated.

**Student Progress**

Each student will have the opportunity to meet individually with the Course Director once a term to discuss his/her progress. Information on how and when to sign-up for a meeting will be circulated. Further guidance on what to do if you encounter problems or difficulties can be found in **Section 10 – Resolving difficulties.**
Student Feedback
We encourage feedback from students on all aspects of the course. This helps us assess how well the course is running, and will help us to correct any current limitations. Feedback questionnaires will be circulated for each module at the end of each term (usually in the last lecture). All feedback is anonymous and you are encouraged to complete the questionnaires. The responses will be sent to the relevant lecturers and to the Course Director for consideration.

In addition to this formal mechanism, we also encourage informal feedback at any time. Your comments regarding the course will be highly valuable to us in evaluating the content and direction of the course. As this area of computational biology is rapidly evolving, we expect to evaluate the content yearly to ensure that our students receive the best education possible in this field.

Course Administration
The Course Administrator is the main administrative contact for the MPhil (see Section 2 - Key Contacts). Any general questions you may have about the course should be directed to the Course Administrator in the first instance. The Course Administrator is part of the Mathematics Graduate Office team which is based in C0.15. In the Course Administrator’s absence please do not hesitate to contact any member of the team for assistance.

4. MPhil Calendar 2018/19

<table>
<thead>
<tr>
<th>October</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon 01</td>
<td>Induction 11:00-12:15, MR15&lt;br&gt;Lunch 12:30-13:15, Pavilion G Common Room&lt;br&gt;Introduction to UNIX 13:30-15:00, MR16</td>
</tr>
<tr>
<td>Tue 02</td>
<td>Full Michaelmas term begins&lt;br&gt;Graduate Safety Course (Babbage Lecture Theatre)&lt;br&gt;Scientific Programming 13:30-14:30, MR15&lt;br&gt;Scientific Programming 14:30-15:30, MR16</td>
</tr>
<tr>
<td>Wed 03</td>
<td>Introduction to Molecular Biology 10:00-12:00, MR15&lt;br&gt;CMS Induction 12:00-12:15, MR15&lt;br&gt;Introduction to Molecular Biology 13:00-15:00, MR15</td>
</tr>
<tr>
<td>Thur 04</td>
<td>Introduction to Molecular Biology 10:00-12:00, MR15&lt;br&gt;Scientific Programming 13:00-15:00, MR15</td>
</tr>
<tr>
<td>Fri 05</td>
<td>Functional Genomics 10:00-11:00, MR15&lt;br&gt;Genome Informatics 12:00-14:00, MR15&lt;br&gt;Scientific Programming 14:00-15:00, MR15</td>
</tr>
<tr>
<td>Wed 10</td>
<td>Seminars and weekly tea commence</td>
</tr>
<tr>
<td>Wed 17</td>
<td>Deadline for submission of Turnitin acknowledgment form (online) (4pm)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>November</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tues 27</td>
<td>1-to-1 meetings with Course Director this week</td>
</tr>
<tr>
<td>Fri 30</td>
<td>Full Michaelmas term ends</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>January</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tue 15</td>
<td>Full Lent term begins</td>
</tr>
<tr>
<td>Thur 17</td>
<td>Lent term teaching week 1 begins</td>
</tr>
<tr>
<td>Wed 23</td>
<td>Seminars and weekly tea commence</td>
</tr>
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<table>
<thead>
<tr>
<th>Feb</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Wed 6</td>
<td>Internship meeting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>March</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri 15</td>
<td>Full Lent term ends</td>
</tr>
</tbody>
</table>
Students will be notified of which modules are to be examined in the general examination by the end of Lent Term

<table>
<thead>
<tr>
<th><strong>April</strong></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Tue 23</td>
<td>Full Easter term begins</td>
</tr>
<tr>
<td>Thur 25</td>
<td>Easter term teaching week 1 begins</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>May</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri 03</td>
<td>Deadline for submitting internship project titles/arrangements (4pm)</td>
</tr>
<tr>
<td>Fri 10</td>
<td>MPhil General Written Examination (2-4pm)</td>
</tr>
<tr>
<td>Mon 13</td>
<td>Internships begin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>June</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri 14</td>
<td>Full Easter Term ends</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>August</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wed 07</td>
<td>Deadline for submission of internship reports (4pm)</td>
</tr>
<tr>
<td>Mon 12</td>
<td>Deadline for submission of internship presentation files (4pm)</td>
</tr>
<tr>
<td>Wed 14 – Fri 16</td>
<td>MPhil Presentations</td>
</tr>
<tr>
<td>Fri 16</td>
<td>MPhil Oral Examinations where applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>September</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fri 13</td>
<td>MPhil Examiners Meeting (TBC)</td>
</tr>
<tr>
<td>Thur 19</td>
<td>Degree Committee Meeting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>October</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sat 19</td>
<td>First available congregation for those graduating</td>
</tr>
</tbody>
</table>
5. Course Structure and Requirements

The modules to be offered in 2018-19 are as set out below. Candidates for the degree must offer all taught modules for examination, except that in Lent Term there is a choice between two half modules. All taught modules are assessed by coursework assignment. Normally students will be set two or three assignments for each module. Please see course outlines for details of forms of assessment. In addition, students sit a two-hour general examination in the Easter Term on the material taught within the modules. Students are also required to complete an internship project which is assessed by a report of no more than 15,000 words and a presentation. At the discretion of the Examiners, students may be required to attend an oral examination (see Section 9 – Assessment and Examination).

The weighting for the examination in Computational Biology is out of 12, divided as follows: each module is weighted at 1, and half modules at 0.5, meaning a total weighting of 8 for the taught modules. The general examination is weighted at 1. The internship project is weighted at a total of 3, with 2.5 for the report and 0.5 for the presentation.

<table>
<thead>
<tr>
<th>Term</th>
<th>Module</th>
<th>Abbreviation</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michaelmas</td>
<td>Functional genomics</td>
<td>FG</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Genome informatics</td>
<td>GI</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Scientific programming</td>
<td>SP</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Genome sequence analysis (half module)</td>
<td>GSA</td>
<td>0.5</td>
</tr>
<tr>
<td>Lent</td>
<td>Cancer evolution</td>
<td>CE</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Population genetic analysis of genomic data</td>
<td>PG</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Computational neuroscience</td>
<td>CN</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Either</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Theory and Practice of Deep Learning</td>
<td>DL</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>or Biological Imaging and Analysis</td>
<td>BI</td>
<td>0.5</td>
</tr>
<tr>
<td>Easter</td>
<td>Systems biology</td>
<td>SB</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>General Examination</td>
<td>EX</td>
<td>1</td>
</tr>
<tr>
<td>Summer</td>
<td>Internship Report</td>
<td>IR</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Internship Presentation</td>
<td>IP</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Module Choices
Most modules in the MPhil are compulsory. However, in Lent term students may choose to take either Theory and Practice of Deep Learning or Biological Imaging and Analysis. Whilst students may attend lectures for any of these courses if they wish, they may only be formally examined for one of these two modules. The University sets the date by which students must make their choices and be formally enrolled for assessed modules. At the time of going to print this date has not been confirmed. Students will be informed by the Course Administrator of when they need to confirm their choices as soon as this information has been confirmed.
6. Taught Modules 2018-19

The following information provides a summary for each module offered in the current academic year. More detailed information will be provided by the module leader and lecturers as part of the course. Course materials and lecture notes will be uploaded by lecturers direct to the Course Moodle for students to access.

Michaelmas Term

Functional Genomics (FG)
Dr Oscar Rueda (Cancer Research UK Cambridge Institute).

Functional genomics looks at the dynamic aspects of how the genome functions within cells, particularly in the form of gene expression (transcription) and gene regulation. This class surveys current methods for functional genomics using high-throughput technologies. We cover all stages of the experimental workflow: experimental design and planning, pre-processing and quality control, normalization, differential expression, clustering, classification and survival analysis. We present workflows for the processing, quantification, and downstream analysis of microarrays, RNA-seq, CHiP-seq and methylation data as well as approaches that seek to integrate different data types.

Assessment: Three assignments, weighted 30:40:40. The first two consist of an individual paper answering questions related to the lectures and practicals done during the course. The third assignment (40% of the final mark) has a group component (reproduce the analysis) and an individual component (extend the analysis). Students will be required to write a report and present the results in a 1 hour session. There will be a feedback session at the end of the course.

Genome Informatics (GI)
Dr Alastair Crisp (MRC-LMB, Cambridge)


Assessment: Three assignments, weighted 10:45:45. The first and third assignments will be individual and assessed by written report, while the second will be a group assignment assessed by presentations.

Scientific Programming with R (SP)
Dr Stephen Eglen (DAMTP)


Assessment: Three individual assignments. There will be a feedback session for each assignment after it is marked.

Genome Sequence Analysis (GSA)
Dr Aylwyn Scally (Department of Genetics)

The course will introduce hidden Markov models, their properties, implementation and application to some important problems in bioinformatics and genomics. Topics: probabilistic models; Markov
chains; hidden Markov models; inference with HMMs; the Viterbi algorithm; Baum-Welch training; sequence alignment.

**Assessment:** A practical assignment in which students are required to implement and apply a computational HMM to genome sequence data and interpret its output.

**Lent Term**

**Cancer Evolution (CE)**
Dr Florian Markowetz (Cancer Research UK Cambridge Institute)

Cancers evolve dynamically as clonal expansions supersede one another driven by shifting selective pressures, mutational processes, and disrupted cancer genes. These processes mark the genome, such that a cancer's life history is encrypted in the somatic mutations present. In this module we will discuss algorithms to recover features of cancer evolution from somatic mutations (copy number changes, single nucleotide variants and structural variants).

**Assessment:** Two written individual assignments, together comprising the whole of the mark for the course.

**Population Genetic Analyses of Genomic Data (PG)**
Dr Chris Illingworth (Department of Genetics)


**Assessment:** Two written individual assignments, together comprising the whole of the mark for the course.

**Computational Neuroscience (CN)**
Dr Stephen Eglen (DAMTP)

1, 2. Introduction/Single neurons
3, 4. Short and long term memory/associative networks
5, 6. Complex brain networks
7, 8. Structure and dynamics networks
9, 10. Supervised learning
11, 12. Reinforcement learning
13, 14. Unsupervised learning
15, 16. Development of the nervous system

**Assessment:** Two individual assignments, weighted evenly. There will be a feedback session for each assignment after it is marked.

**Biological Imaging and Analysis (BI)**
Dr Stefanie Reichelt (Cancer Research UK Cambridge Institute)

Imaging Biological Processes has been revolutionized through the development of fluorescent probes and imaging systems which allow the observation of specific molecules and cell populations in time and within a whole organism. Before applying image analysis algorithms and mathematical analysis to
biological questions, it is essential to understand the acquisition methods and also the biological questions. This course aims to teach the students what are the imaging systems, what the samples are and how can we label and detect specific probes. Moreover, basic concepts of image analysis and some of its main methodologies such as image de-noising, object segmentation and tracking will be introduced and their practical implementation in MATLAB explained. Particular topics discussed will be:

1. Imaging Modalities in Biology: Challenges and Tricks
2. Contrast in Imaging: Interference, Phase Contrast and Fluorescence
3. Laser Scanning Microscopy: Confocal, Spinning Disc and SPIM Imaging
4. Beyond Abbe Resolution: STED, STORM, SIM
5. The mathematical representation of images and their analysis
6. Image enhancement
7. Image segmentation and motion analysis
8. Doing image analysis with MATLAB

Assessment: A written report focusing on a particular imaging and analysis technique. It will include a practical part in which imaging data will be acquired and analysed with its outcomes also discussed in the report.

Theory and Practice of Deep Learning (DL)
Dr Stephen Eglen (DAMTP)

This half-module (8 lectures) will comprise two parts. In part one, we will introduce the theory of deep learning (network architectures, unsupervised, supervised and reinforcement learning paradigms) and practical applications (training, visualisation, libraries). In part two, we will provide applications including convolutional networks for image analysis and classification and Long Short-Term Memories (LSTM) for text analysis. Where appropriate, contemporary applications within industry will be described.

Assessment: One assignment.

Easter Term

Systems Biology (SB)
Johan Paulsson and Andreas Hilfinger (Harvard Systems Biology)


Assessment: One assignment that has an individual and group part
7. Internship

You will spend the last three and a half months of the course (May, June, July and August) working on a research project based in a company, other academic institution (such as the EBI or Sanger) or in another department of the University of Cambridge. The internship is a mandatory assessed component of the MPhil course and is weighted as three modules towards your final result (2.5 modules for the written report and 0.5 modules for the presentation). It is a very important part of the course as it provides students with the opportunity to undertake a piece of original research and to make contacts that may be useful when going on to do a PhD or to find work. Those who are looking for a job after the end of the course may find a company project particularly useful as this will provide you with a reference and relevant work experience.

We have found that it takes at least the first term for many students to know what field they wish to pursue. Lent term is therefore normally when students start looking for and discussing potential projects with supervisors. You can of course start earlier and we strongly recommend that students use the Wednesday seminars (see Section 4 – Calendar) as an opportunity to familiarise themselves with current research and to start exploring potential project topics. We will have a meeting towards the start of Lent Term to discuss internships. Some students from previous years will also attend the meeting and describe their own experiences of undertaking a project. You will be welcome to ask them questions and we hope that you will find this useful.

Projects advertised by the Department
The Department will advertise a list of potential projects on the Course Moodle. These will give you brief details of projects that have been submitted to us. You are encouraged to follow up projects that interest you directly with the named contact. Please remember that details of the company projects are often necessarily sketchy because they may involve commercially sensitive material. We hope to be able to start publishing opportunities from the start of Lent term and will add to the list as and when details are received from hosts/supervisors. You are advised to monitor the relevant page of Moodle for updates.

Arranging your own project
We encourage you to follow your own interests. If there is a particular area in which you wish to conduct research you should discuss it with potential supervisors directly. If you do decide that you want to arrange your own project, there is one proviso; you must discuss details of any self-directed project with the Course Director first and you must have his approval before going on to make any definite arrangements. We are happy for students to try to arrange a project which is in the same field as their future PhD and for this period to be, informally, the start of their doctoral study.

Please remember that when you are contacting a company or university that you are representing not only yourself but the course and the University of Cambridge. It is absolutely essential that any contact is made in a professional, polite and business-like manner. If you are unsure about the best way to contact a company or institution then please ask for advice before proceeding.

Please note that generally speaking the University and Department will not agree to sign ‘non-disclosure’ agreements with organisations for MPhil internships projects. Where students are asked to sign any such agreement we strongly urge you to ensure that it will not negatively impact upon the work that you will be able to submit for examination. If in doubt, please discuss the matter with the Course Director in advance of starting your project.
Confirmation of Internship Project

Whether you decide to take up a project advertised by the Department or to organise your own, you are required to confirm the details (title and supervisor/host details) to the Course Administrator no later than Friday 03 May 2019. Details of final projects will be posted on Moodle.

Written Report
The exact nature of this report will vary according to your internship. It should take the format of a dissertation, and as a guide should be structured as follows:

- Chapter 1 - introduction/aims/literature review
- Chapter 2 - your work (possibly broken down into more than one chapter).
- Chapter 3 - conclusions / future work
- References
- Appendices - for any extra material (e.g. code snippets, detailed derivations) that you wish to be included for future reference, rather than necessarily to be read by the examiner.

The report should be no more than 15,000 words, which means that your report should be no more than around 30 pages (at 500 words/page, but that assumes no figures). This word limit excludes the bibliography and appendix. Please note this is an upper word limit — writing a short clear report is much better than a long report padded with text to reach the upper word limit. Please write the word count on the front page of the report.

Declaration of Authorship
In the preface to your report you must include a declaration of authorship, signed and dated as follows:

I hereby declare that this dissertation entitled [Enter Your Project Title] is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text. I further state that no substantial part of this dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I confirm that I have read and understood the Faculty of Mathematics Guidelines on Plagiarism and the University-wide Statement on Plagiarism.

This declaration is not included in the word count.

Submission deadline
The deadline for submission of your Internship Report is no later than 4pm on Wednesday 7 August 2019. You must submit an electronic copy of your report to the Course Administrator by this date and time. Electronic submission is via Moodle (see Section 9).

Presentation
All students are required to give a presentation on their project research. Presentations will take place on Wednesday 14 August to Friday 16 August 2019. A detailed timetable will be provided closer to the time. Given the number of presentations involved and the need to co-ordinate the timetable with the availability of the examiners, it is not possible for students to select their own time slots. Students are therefore advised to make sure that they are available all day on these dates until they are notified of the final arrangements. Students are welcome to attend each other’s presentations if they so wish and are encouraged to support each other in this way.

It is expected that students will give their presentation in person. If you are unable to attend in person, you should contact the Course Administrator at the earliest opportunity. Permission from the Course
Director must be given for the presentation to be undertaken by skype or video conference. If this proves necessary, students must take responsibility for ensuring that appropriate arrangements are made. No allowances or dispensations will be made. We strongly advise students to make every effort to make their presentation in person.

Each presentation is expected to last 20–25 minutes, with five minutes for questions. You will be expected to keep to time. If you are still talking at 25 minutes, you will be asked to stop immediately. A timer is usually available to help you keep aware of the time elapsed. We strongly advise that you arrange to give several practice talks (e.g. to your colleagues, or host lab). Experience has shown that people who practice give better talks.

For your presentation, you will be required to submit your electronic files (PPT/PDF/Keynote) by Monday 12 August 2019. Submission is via Moodle

8. Unfair means, plagiarism and collusion

The University and Department take very seriously the use of unfair means, plagiarism and/or unauthorised collusion in work submitted for formal assessment. All students are expected to be familiar with and abide by the Faculty and University guidance on plagiarism. The Faculty’s guidance on plagiarism can be found online at www.maths.cam.ac.uk/facultyboard/plagiarism/. The University’s guidance on plagiarism, along with guidance on study skills and good academic practice is available at http://www.admin.cam.ac.uk/univ/plagiarism/. Students should be aware that the University subscribes to Turnitin UK text-matching software, and that under University policy any work submitted for assessment can be submitted to this software for screening (https://www.plagiarism.admin.cam.ac.uk/turnitin-uk). MPhil students are required to complete an online declaration stating that they have read relevant guidance and understand this policy at the start of the academic year.
9. Assessment and Examination

Marking Scheme

We will use the following marking scales to evaluate your work on each module:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Mark Range</th>
<th>Grade Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>75–100%</td>
<td>Excellent</td>
</tr>
<tr>
<td>B</td>
<td>65–74%</td>
<td>Good</td>
</tr>
<tr>
<td>C</td>
<td>60–64%</td>
<td>Satisfactory</td>
</tr>
<tr>
<td>D</td>
<td>50–59%</td>
<td>Fail</td>
</tr>
<tr>
<td>F</td>
<td>Under 50%</td>
<td>Fail</td>
</tr>
</tbody>
</table>

Your final mark will be based on your average score from all the modules you have taken (including the three modules which are awarded for the project). To pass the course, your average score must be 60% or over. Those scoring at least 75% will be awarded a distinction which must include a score of 60% or over in the examination.

Managing your workload

If you are feeling overloaded and cannot hand in your coursework on time then please do not panic. We would prefer you to hand in work that is incomplete rather than failing to meet the deadline. This may seem harsh but we have found that giving general extensions to deadlines can compound the feeling of being overloaded because other coursework deadlines then start to overlap. When a particular task proves difficult for many students we will take this into account when marking the work. If there is a general sense of being overloaded or other difficulties with coursework then please ask your Course Representative to speak to the Course Director. You may find that particular elements of the course are difficult. Please let us know if this is the case.

Late Submission and Extensions

The deadlines set for the submission of assessed work (including the internship report and presentation) should be treated as firm. Any work that is submitted after the specified deadline without clear mitigating circumstances will not be marked. You will be awarded zero for the piece of work in question.

Students may request a formal extension to deadlines on the basis of illness or serious personal grounds. To request an extension, students must obtain a supporting letter from their College Tutor. This letter should be addressed to the Course Director but sent to the Course Administrator, who will discuss the request with relevant parties and respond directly to the student with the outcome. The letter from the Tutor must clearly set out the grounds for the delay; confirm that supporting medical evidence has been received by the college (if appropriate), and propose a revised submission date. Whenever possible, this procedure must be carried out before the original submission date has passed.

Submission of assessed work to Moodle

Each piece of coursework must be submitted in the format specified by the lecturer setting the work. Presentation of your work is important and will be taken into account when marking your assignments. Please keep a reference copy of all work submitted for assessment until after the examinations process has been completed.

Unless otherwise stated, all coursework, including the internship report and presentation, must be submitted for marking via Moodle. You will be given access to the site at the start of the year and will be able to log-in using your raven password. Assignment details are added to Moodle throughout the course of the year as they are needed, so do not be concerned if you cannot see all the assignments straight away.
Please note that when you submit your work **Moodle will automatically note the time of submission.** **You will not be able to upload work to the system after the specified deadline has passed.** If you submit work before the deadline, you can resubmit work to the system (e.g. if you upload the wrong file or you want to amend a piece of work). If you experience any technical difficulties in using the site or cannot access it please contact the Course Administrator.

Unless explicitly requested otherwise, upload only one file, which should be a PDF. Please do not scan in handwritten notes and submit them as a PDF. They will not be accepted. In previous years, some users of Microsoft Word on Windows submitted PDFs that were not printable from Unix machines—this is normally a problem with the PDF not including the fonts that you were using on your machine. We strongly encourage the use of LaTeX, as this generates high-quality portable documents.

**Anonymous marking**
Where possible work is marked anonymously. Before submitting each piece of work, please make sure that you have not included in the file or file name any personal identifies (e.g. your name or crsid). Instead, please use your student number (USN) and the abbreviated assignment name and number. For example, if user ‘304200111’ was submitting Functional Genomics Assignment 1, their file would be called: 304200111_fga1.pdf.

**Written Examination**
There will be a two hour written examination at the end of the taught part of the course. You will be advised by the end of Lent term which modules will be examined. The exam will be held on **Friday 10 May 2019.** If appropriate, you are allowed a calculator in the exam room but it must be an approved University model. Approved models are CASIO fx 991 (any version), CASIO fx 115 (any version) and CASIO fx 570 (any version). Before the examination you must have your calculator marked as approved by the Mathematics Undergraduate Office (B1.28). Only calculators marked as approved in advance will be permitted in the exam hall.

If you require exam access arrangements to be put in place, you should discuss the circumstances with your College Tutor well in advance of the examination. Further advice is available here: [www.admin.cam.ac.uk/students/studentregistry/exams/before/special.html](http://www.admin.cam.ac.uk/students/studentregistry/exams/before/special.html).

**Oral examinations (viva voce)**
The regulations for the MPhil in Computational Biology permit the examiners to call any candidate for the degree to an oral examination. Usually the Examiners will only request an oral examination where a candidate is at risk of failing the degree on the basis of his/her provisional marks. The provisional date for oral examinations in 2018-19 is **Friday 16 August 2019.** Students are expected to be available in Cambridge on this date and to attend an oral at short notice.

**Provisional marks and feedback**
In order for students to know how they are progressing it has been agreed that individual assignment marks may be released as they are received. Marks will be released by the Course Administrator via Moodle. Students should note that provisional marks are subject to change and may be adjusted (either up or down) as part of the ongoing examinations process. They are provided as an indication of progress only. Any other form of feedback on assignments is provided at the discretion of the examiner or lecturer concerned.

No marks are confirmed until they have been formally approved by the Degree Committee at a meeting at the end of September and no formal confirmation of the outcome can be provided prior to this. Students who require a letter confirming provisional results prior to the Degree Committee (e.g. for a PhD application, or future employer) can request one from the Course Administrator.
Notification of degree and confirmation of final marks
At the beginning of September the Examiners will meet to agree the final marks for each candidate. The Examiners recommend to the Degree Committee the final marks, and whether or not each candidate has met the requirements of the degree for which they are being examined. The Degree Committee will review the recommendations and will ultimately confirm the approval or non-approval of the degree in each case.

Following the Degree Committee meeting a statement of final confirmed marks, together with notification concerning the overall outcome of the examination will be sent individually to candidates by email. Whilst the Department seeks to notify students of the outcome at the earliest possible opportunity candidates should not expect to receive their results until mid-October following the end of their course. Students who require a hard copy of their award letter may request one from the Course Administrator.

Graduation, Degree Certificates and Official University transcripts
Colleges are responsible for organising graduation and the Department has no role to play – candidates should contact their College Tutorial Office to make the necessary arrangements. The Student Registry is responsible for the production of formal University transcripts and Degree Certificates. See www.admin.cam.ac.uk/students/studentregistry/exams/after/degreeapproval.html for further information.

Continuation to the PhD
It is not possible to provide formal confirmation of your degree result or marks prior to the Degree Committee meeting. If you have been made an offer to continue to undertake a PhD at Cambridge either in the Department or elsewhere your offer will, as a minimum, require evidence of completion of the MPhil degree. The Degree Committee will notify the Graduate Admissions Office of your completion immediately after the September meeting in order for this condition to be fulfilled. If you are required to pass with a particular overall mark, the Degree Committee will also provide this information as appropriate. Please do speak to the Course Administrator for further advice if you need to.

Review of Examination results
Examinations are covered by strict regulations and students should not, under any circumstances, seek to discuss examination results with the Examiners. The University has a standard procedure for the Review of Examination Results for Graduate Students, details of which can be found at https://www.studentcomplaints.admin.cam.ac.uk/examination-reviews. Students who are considering requesting a review under this procedure should discuss the matter with their College Tutor before proceeding. You should note that any investigation by the University will usually confine itself to seeing that the examiners acted correctly (for example that all the marks you received were entered into the mark book) and not try to second guess the examiners by re-marking your papers.

Data Protection
To meet the University’s obligations under the data protection legislation, the Faculty deals with data relating to individuals and their examination marks as follows:

- Final marks for each module, the written examination and the internship project are sent routinely to individual candidates after the September Degree Committee. The final examination mark book and individual module mark books are kept indefinitely by the Graduate Office.
- Scripts, assignments and internship project submissions are kept, in line with the University policy, for six months following the examinations (in case of appeals). Scripts are then
destroyed; and local copies of coursework and internship project submissions deleted. Assessor feedback reports and comments are also retained for six months where available.

- Neither the Data Protection Act nor the Freedom of Information Act entitle candidates to have access to their examination scripts. Data appearing on examination scripts is technically available on application to the University Information Compliance Officer. However such data consists only of the examiner’s ticks, crosses, underlines, etc. and mark subtotals and totals.

It is University policy to publish the names of all those awarded an MPhil degree in the University Reporter. Students who do not wish to have their name included must ‘opt-out’ via CamSiS self-service by 01 September.
10. Resolving difficulties

Occasionally students may experience problems or difficulties during the course of the MPhil. Such difficulties can take very different forms. The guidance below is provided to help you to identify available support and advice should you encounter difficulties. Students are encouraged to raise any difficulties that they may have at the earliest opportunity. The sooner that we know about problems, the sooner they can be addressed.

Problems with particular modules
If you are experiencing difficulty with a particular module, you are encouraged to contact the relevant lecturer in the first instance. He or she may be able to provide you with additional literature or clarify material. You may also find it helps to talk to other students on the course. If there are issues with a module that cannot be resolved through discussion with lecturers you may wish to consult the Module Leader or Course Director (see Section 2 - Key Contacts).

Problems with the course in general
Sometimes a student may find that the course is not right for them. If you are at all concerned that this is the case you should consult the Course Director at the earliest opportunity. You may also wish to consult your College Tutor or Graduate Tutor at this time. It is important to note that you will become liable for payment of fees from day 21 of every term, even if you withdraw before the end of term.

Personal difficulties
Occasionally students encounter personal difficulties (e.g. medical or financial) during the course of their studies. If you encounter such personal difficulties, you should inform your College Tutor as soon as possible. They can advise you on your options and on any formal processes or procedures that may apply. Your College may also be able to provide you with other support (e.g. access to counselling services) and will have experience of dealing with many different issues. In addition, you should keep the Course Director informed. The University Student Wellbeing website has links to many useful resources (https://www.studentwellbeing.admin.cam.ac.uk/).

Medical problems and disabilities
Students with medical problems or disabilities are strongly advised to discuss such problems with their College, who will offer advice and support for medical problems and disabilities. There is a University Disability Resource Centre (www.admin.cam.ac.uk/univ/disability/).

Equality and Diversity
The Mathematics Faculty is committed to creating and maintaining an environment for work, learning and research which is free from discrimination. It is expected that all members of the Mathematics Faculty (staff and students) will treat each other with respect irrespective of, for example, race, disability, religion, gender or sexual orientation. If you have concerns about any such matter, you are encouraged to approach, in confidence either one of the Faculty Equality and Diversity contacts: Orsola Rath-Spivack (room G0.09, email or100@cam.ac.uk); or Stephen Eglen (room G0.11, email sje30@cam.ac.uk); or your College Tutor.

Informal advice
If at any stage you are uncertain of the best approach to dealing with problems, please do approach the Course Administrator, (combiomphil@maths.cam.ac.uk) or the Graduate Office Administrator, Sarah Dodd (grad-administrator@maths.cam.ac.uk) on an informal basis. The Graduate Office is shared by a number of administrators, so if you would prefer to meet in a more private setting just let us know.

University procedures
Where local resolution is not possible, the University has procedures for managing a range of student complaints (https://www.studentcomplaints.admin.cam.ac.uk/).
11. Guide for Internship Supervisors and Examiners

Potential supervisors are encouraged to contact the Course Administrator with details of potential projects. The nature of these projects can be quite diverse, as long as computational modelling/analysis of biological systems forms a central part of the project. Potential supervisors are encouraged to give a seminar to the students about their work.

We typically require no more than a 1/2 page description of the project and try to keep administration to a minimum.

We do however require several commitments from supervisors:

1. Supervisors are expected to provide the students with all the resources required to complete the project. (Students will however have access to a compute server based in the mathematics department.)

2. We recommend at least weekly meetings to ensure that the student is making suitable progress on the project.

3. Co-supervision of the project, e.g. with senior postdocs in a group, is allowed.

4. Internship project reports will be marked independently by two assessors: the project supervisor and an examiner. Each assessor will write a short (usually 1/2 to 1 page) report on the project, commenting where appropriate on the following elements:

   • Scientific approach to problem
   • Results
   • Overall quality of explanation
   • Style and presentation

An overall grade should be provided according to the University-wide MPhil marking scheme:

   • 75% and over for a distinction
   • 65-74% for strong reports
   • 60-64% for satisfactory reports
   • A mark of under 60% therefore indicates a fail.

If the discrepancy between two assessors’ marks is less than 10%, the two marks will be averaged. Otherwise, the two assessors will be asked to discuss the reports, and possibly adjust their marks. If no agreement can be reached, another assessor will be asked to adjudicate. Please note that reports will be made available to students after marking.

Assessment

Students will be assessed in two ways:

1. A written report of the project (worth 2.5 modules).
2. An oral presentation (worth 0.5 modules).
Written report

The exact nature of this report will vary according to the internship, but it should take the format of a dissertation, normally taking the following format:

- Chapter 1 - introduction/aims/literature review
- Chapter 2 - the work (possibly broken down into more than one chapter).
- Chapter 3 - conclusions / future work
- References
- Appendices - for any extra material (e.g. code snippets, detailed derivations) that can be included for future reference, rather than necessarily to be read by the examiner.

The report should be no more than 15,000 words; as a guide it should be no more than around 36 pages of text (at 500 words/page, but that assumes no figures). This word limit excludes the bibliography and appendix. Please note this is an upper word limit --- writing a short, clear report is better than a long report padded with text to reach the upper word limit. Please write the word count on the front page of the report.

Examples of reports from previous years are available from the Course Administrator.

Oral presentation

Presentation files (PPT/PDF/Keynote) are submitted to Moodle and uploaded to a group laptop that is used for all presentations; students are not normally permitted to use their own laptops for presentations. Each talk is expected to last 20-25 minutes, with five minutes for questions. Students are expected to keep to time, as there are many presentations in each day. If any students go over 25 minutes, they will be asked to stop immediately. We strongly advise that students arrange to give several practice talks (e.g. to colleagues, or host lab) as experience has shown that people who practice give better talks. Students are also encouraged to attend the talks of their colleagues.

Key dates and contacts for 2018/19

The key dates for students are:
- Project start: 13 May 2019
- Report submission: 7 August 2019, 16:00 BST
- Presentation submission: 12 August 2019, 16:00 BST
- Presentations: 14-16 August 2019 (TBC)

Project supervisors and examiners will receive reports for grading on 8th August; evaluations are required by 13th August 2019.

Please email the Course Administrator compbiomphil@maths.cam.ac.uk with any queries regarding internships.
12. Safety and Security

Access and Security at CMS
The main doors into Central Core are normally unlocked on weekdays between 8.20am-5.30pm, and on Saturdays from 8.30am-5.00pm in term time. Magnetically locked doors should not be propped open, or the alarm will sound. You need a University Card to unlock exterior doors and interior doors outside core hours. Keep your card on you at all times.

Your College is responsible for providing you with a University Card, but it will need activating to work at CMS and will give you 24/7 access. Ask at Reception for activation of your card. If you wish to have out-of-hours access to the Betty and Gordon Moore Library, you will also need to take your card there for programming.

If you lose your card report it immediately to Reception (65000) reception@maths.cam.ac.uk

Do not let strangers without keys or entry cards into the buildings and do not move computers without contacting the Computer Officers. Close manual windows and lock manual doors if you are the last to leave.

The University is not insured for theft of, or damage to, your personal property while you are on University premises, so if you bring a computer with you, you should take out insurance for it. The University is insured for accidental personal injury to staff, students and visitors while they are on University premises, but only where the accident was due to fault on the University’s part.

Fire Safety
Familiarise yourself with entrances, emergency exits and fire-alarm assembly points. In the event of the fire alarm sounding, leave the building by the nearest exit. Do not re-enter the building, even if the alarm has been silenced, until advised to do so.

The external doors do not unlock automatically for security reasons; exit in the normal way. Assembly points are shown on posted site plans and Fire Wardens will direct you. Do not attempt to enter another building if the alarm is sounding there also.

In an emergency, and in the event of doors failing to open, break the glass in the green “break glass” boxes located alongside each door. Please report this to Reception/Security, as the doors will remain unlocked until the glass is replaced.

Fire alarms are tested in each building every Wednesday morning between 08:30 and 09:00. The alarm will sound for only a few seconds and for this brief period only it can be ignored; if the alarm continues to sound please evacuate the building. Fire Safety training is provided at CMS in Michaelmas term and you are encouraged to attend.

First Aid
First Aiders may be summoned via Reception (65000). First Aid boxes are held in each common rooms in one of the cupboards and a First Aid room is located in the lower ground floor of Pavilion F. There is an automated external defibrillator (AED) sited on the buttress adjacent to reception leading to the entrance to Pavilion G common room.
If an accident occurs outside normal office hours, telephone Security on 31818. The emergency number for FIRE, POLICE or AMBULANCE is via Security on 101, or 1999 on any network phone.

All incidents must be reported to Reception, and a report form completed. Forms can be downloaded from [http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-incident-report-form](http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-incident-report-form). The completed form should be handed to reception or emailed to reception@maths.cam.ac.uk.

**Safety**

The CMS Safety Officer, Mick Young, will give a short safety briefing for new students as part of the Introductory Meeting. It is important that all members of the Department staff observe safe working practices and inform the appropriate Safety Officer or the relevant Departmental Administrator, if they see anything giving cause for concern. The CMS safety policy is available at [www.cms.cam.ac.uk/safety/safetypolicy/](http://www.cms.cam.ac.uk/safety/safetypolicy/).

All accidents or near misses should be reported, whether or not they involve personal injury. Accident report forms are available from Reception and online at [http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-report-form](http://www.safety.admin.cam.ac.uk/publications/hsd020e-accident-dangerous-occurrence-and-report-form) and the completed form should be submitted to the Laboratory or Site Safety Officer as appropriate.

Site Officers are:
- For the Laboratory: Dr Mark Hallworth (37841)
- For the rest of the CMS site: Mr Mick Young (66915)
- For DAMTP: Hannah Fox, Departmental Administrator (37863)
- For DPMMS: Vivien Gruar, Departmental Administrator (37996)

**Smoking**

Smoking, including electronic cigarettes and vapour pipes, is not allowed in any of the CMS buildings and is actively discouraged near entrances or automatic vents and windows. Ashtrays are provided beneath the cycle shelters around the perimeter of the site and the circular seating areas outside the main entrance to Central Core.
13. Departmental information

Bicycles
There are cycle racks at several points around the CMS site - please use these. A good lock is a necessity! Please take care not to lock your cycle to neighbouring cycles. Cycles are not allowed inside the buildings or inside the courtyard between the Gatehouse and Pavilion A.

Cars
Unless you are registered disabled (and even then a place cannot be guaranteed) you will not be allocated parking.

Catering Facilities and Common Rooms
The central dining facility is open from 09:00 to 16:00 for snacks, light lunches and coffee and tea. Please ensure you return your trays to the collection points and place all unwanted items in the appropriate bin. All cafeteria plates, cutlery, napkins etc. are made from Vegware and are biodegradable and should be placed along with any waste food in the bins marked as compostable waste. There are coffee machines in the common room in each pavilion and vending machines in Pavilion A. Each pavilion has its own common room with fridge, kettle/water boiler, microwave and Flavia coffee machine; drink sachets can be purchased from Reception. Please wash and clear away any crockery and cutlery after use. The refrigerators should not be used for long-term storage of food as space is limited. Milk and sugar are provided.

It costs the University twice as much to dispose of general waste as it does for mixed recyclables waste. CMS has one of the best recycling rates within the University; please help us maintain and better this by thinking about how you should dispose of the waste in your office / common room and select the correct waste stream.

Disabled Students
The building was designed for universal access but please contact Mick Young (66915) for advice on your detailed access requirements. For the full range of support available via the Disability Resource Centre, please see their web page at http://www.admin.cam.ac.uk/univ/disability or contact your department Disability Liaison Officer (DAMTP: Hannah Fox (37863); DPMMS: Vivien Gruar (37996)).

Expenses
Jon Foulkes (Room B1.27) deals with all aspects of departmental finances including the administration of studentship awards. If you need to claim expenses then you are required to produce receipts for all items and to pass these and a completed departmental expense claim form to Jon.

Standard expenses (such as postage, phone, photocopying, fax, stationery etc.) are not normally charged for, but must be work-related. This policy is possible only if it is not abused, e.g. people do not make long national phone calls (note that phone calls are automatically logged). Please try to avoid making personal phone calls but if these are essential then contact Jon Foulkes and let him know how you would like to be billed.

Mail Services
Long-term members of the Department have their own pigeonholes; others (including research and MPhil students) have shared pigeonholes allocated by first letter of surname. The pigeonholes are on the ground floor of Pavilion A, near to Reception.
Outgoing mail should be placed in the trays in Reception, before 15:00 on weekdays. A University Messenger Service (UMS) circulates between the University's departments and Colleges. Mail is collected by the UMS daily at 10:00. There are no mail services at weekends. Please ask Reception if you have any queries.

**Lockers**
Lockers are located on the lower ground floor of G Pavilion, next to the MPhil Room (GL.03). These will be allocated on a first come first serve basis. If you want to use one of the lockers, please contact the MPhil administrator in Graduate Office, C0.15, for registration. The lockers must be emptied by 31st August, otherwise they will be cleared shortly thereafter.

**Seminars**
Lists of forthcoming seminars within DAMTP, DPMMS and the nearby Isaac Newton Institute for Mathematical Sciences are displayed on the screens in the common rooms and Pavilion A and on the relevant web pages. See also [www.talks.cam.ac.uk](http://www.talks.cam.ac.uk)

**Stationery**
Please help yourself to stationery from the stationery store which is on the ground floor of Pavilion B. You will need a key for this and this can be obtained from either Reception or the Undergraduate Office (B1.28). If you need items which are not in stock please contact the Course Administrator.

**Women in Maths**
The women mathematicians at all levels, from Part III students to University Officers, meet in an informal group several times a year, usually at lunchtime. For support, advice or just a chat, contact Perla Sousi (ps422) or Carola Schoenlieb (cbs31). You may also want to look at the Faculty’s Women in Maths pages which link on to the Athena Swan pages: [www.maths.cam.ac.uk/womeninmaths.html](http://www.maths.cam.ac.uk/womeninmaths.html)

**14. Library**
The Betty and Gordon Moore Library, located on the CMS site, is the main mathematical, physical and biological sciences library of the University. Detailed information is available from [http://moore.libraries.cam.ac.uk/](http://moore.libraries.cam.ac.uk/). Please note that you must register when you first use the Moore. Having done so, students are entitled to full borrowing rights and 24-hour access.

Other libraries in Cambridge may be relevant to graduate students. For example, the University Library in West Road holds a large collection of older mathematical material. A complete listing of Cambridge libraries may be found at: [http://www.lib.cam.ac.uk/libraries_directory/libraries_directory_n.cgi](http://www.lib.cam.ac.uk/libraries_directory/libraries_directory_n.cgi).

The library discovery system is iDiscover ([http://idiscover.lib.cam.ac.uk](http://idiscover.lib.cam.ac.uk)). Use this to search the University's libraries print and online collections using a single search.

There are many specialist print and online resources to support mathematical sciences in Cambridge, please see the Maths LibGuide at: [https://libguides.cam.ac.uk/maths](https://libguides.cam.ac.uk/maths)

You may find that you have to search existing academic literature for your work. The Betty & Gordon Moore Library’s Research Support team will be happy to help you do this so get in touch with them to
book an appointment: moore-rso@lib.cam.ac.uk. The team also offers useful training sessions on a range of topics and they are advertised to all Maths students throughout the year.

15. Email and Computing

Email and Computing Accounts
Students will be issued with a University email account and a Desktop Services computing account by the University Information Services (UIS). Students who are new to Cambridge are able to retrieve passwords for these accounts in advance of arrival in Cambridge as part of the University’s Student Registration process. Students who have already studied at Cambridge should be able to access their previous account. Accounts that have been closed down during the summer vacation by UIS can be re-activated upon request. Further information about accounts is available from http://help.uis.cam.ac.uk/user-accounts-security/accounts-passwords/user-administration/accounts.

Cohort mailing lists
The Faculty uses student mailing lists for issuing important information to the entire student body, or specific student groups. They are moderated to prevent students receiving unofficial email and/or junk email. Most students will have no need to send email to these lists, and should do so only if information is of genuine academic interest to all students.

Noticeboard mailing lists
The Faculty also operates email lists for students who wish to receive information about careers, courses or jobs via a system called ‘noticeboard’. All new students are added to this mailing list at the start of their course. If you wish to opt out of the ‘noticeboard’ you are free to do so. For further details see: https://www.maths.cam.ac.uk/current-students/careers-mathematicians

Laptops/Wifi Devices
You can connect to the Internet using Wifi on most of the site; further information on wireless connections is available at https://help.uis.cam.ac.uk/service/devices-networks-printing/network-services/wireless.

Windows/Linux PCs available for students at the CMS
PCs connected to the University’s Desktop Services are available for use by students in the Teaching Computer Room GL.04. The computers are all ‘dual-boot’ which means they can be started-up to run either Microsoft Windows or Linux. Many software applications are available on both Linux and Windows computers. You may use whichever operating system you prefer, but students who intend to stay on to do research may wish to learn Linux as most of the computers in DAMTP/DPMMS run Linux. Information on these and other Desktop Services facilities at CMS is available from https://things.maths.cam.ac.uk/computing/mcs/. Information on Desktop Services facilities in general, including a list of available software is available from https://help.uis.cam.ac.uk/service/devices-networks-printing/managed-desktops/mcs

Printing
Students are given some print-credit at the start of each academic year that can only be used to print to the two Desktop Service printers in GL.04 and to the two Desktop Services printers in the Part III Room. The amount of print-credit given is generous and should not require topping up during the year. Printing within the credit limit is free. If for any reason, you run out of credit you can apply in writing for additional credit.
A form and further details is available at

https://things.maths.cam.ac.uk/computing/ucs/mcs/MCS-print.html

Computing Help
Please email requests for computing assistance to: help@maths.cam.ac.uk.

Computing Courses
The University Information Service offers a wide range of training courses which are open to members of the University. See the online training timetable and booking facility for details (http://training.cam.ac.uk/ucs/).

Please note that non attendance (failing to attend without cancelling your booking) will result in a penalty fare. The department will refuse to pay any administrative penalty charges so it will be charged to you.

To avoid this charge please ensure that you sign the attendance register at every course or cancel the booking as soon as possible in case you are not able to attend the course.

Computing Rules
Users of Faculty computing facilities are subject to some rules which are published by UIS at http://www.uis.cam.ac.uk/about-us/governance/uis-policies-and-guidelines. In particular your attention is drawn to the following:

- Desktop Services accounts are issued for use by a single individual. You must not log in using another person’s login name, or allow any other person to access facilities using your login name.

- Computer hardware should be used carefully and left in a condition fit for others to use.

- Information belonging to other users is confidential. You must not read, access, or modify any file not owned by you without the explicit permission of the owner. When a file is not protected (i.e. read or write access by others is allowed), it should not be assumed that permission to copy or modify the file is granted.

- Proprietary software must be used correctly in accordance with licensing conditions and must not be copied or modified. If you install any proprietary software, including shareware, on Part III computers, you must hold a valid licence.

- Users must not access any material on the Internet or other facility which:
  (a) is libellous, racist, obscene or indecent;
  (b) is likely or designed to cause offence, inconvenience or anxiety to others;
  (c) infringes copyright law or any other law (images and sound particularly);
  (d) is of a character likely to bring the University or Faculty of Mathematics into disrepute.

If you encounter such material by accident, you are advised to stop viewing immediately and avoid accessing it again.