

Guidance on lecturing and examining the Computer Science Tripos

Teaching and learning

Introduction The tripos is a 3 or 4 year degree course consisting of Part IA (1st year), Part IB (2nd year) Part II (3rd year) and Part III (4th year). We have on average 100 students in each year for years 1 – 3 but only around 15 students who take Part III. Approximately 50 Natural Science and Psychology students also take ('borrow') Paper 1 in Part IA.

We are proud to have been awarded the Athena SWAN bronze award in 2015 and we are committed to the advancement and promotion of the careers of women in STEM in higher education. Currently, fewer than 20% of our undergraduates are female and we are working to improve our gender balance at all levels.

Our aim is to set the highest standards in learning and teaching, linking research and teaching. We provide a stimulating environment for our students to learn and develop their full potential and to help equip them with a skill set that is highly prized in industry and for academic research.

Workload All teaching staff are expected to offer courses to undergraduates as well as to undertake administrative tasks. The senior management team monitor workload to ensure that it is evenly spread amongst staff.

Organisation Students are taught through a combination of lectures, practical classes and supervisions. Lecturers are encouraged to be innovative and learning through practical work incorporating available technology is welcomed where appropriate.

There are huge differences in programming skills among our incoming students. A pre-arrival course determines whether their Director of Studies enrolls them on a 75% computer science programme in Year 1 or whether they initially follow 50% computer science and another subject selected from Natural Sciences or Psychology. The first two years of the Tripos are core and from Year 3 the students specialise. Entry requirements and a course outline can be found at <http://www.cl.cam.ac.uk/admissions/undergraduate/course/>

The finer details of courses can be found at <http://www.cl.cam.ac.uk/teaching/>

The teaching of the Tripos is organised by the Tripos Management Committee (TMC) which meets twice a term <http://www.cl.cam.ac.uk/local/committees/teaching/>

Administration of the Tripos is managed by the Teaching Administration Manager and the student administration offices are in the central corridor. Email teaching-admin@cl.cam.ac.uk

Courses Our expectation is that you will undertake both core teaching and teaching which is underpinned by research in your own field and which is intellectually challenging to our students. Computer science is a fast-moving field and courses may need regular updating. Suggestions for new courses and revisions to courses for the next academic year should be presented to the TMC in time for the second meeting of the Committee in Lent term. The timetable is finalised during Easter term and your syllabus should be written up and ready for publication by the end of August.

The Teaching Committee will also ask you to teach core courses which need to be covered, perhaps while another lecturer is on sabbatical leave and to undertake teaching in subjects within your field but which are not central to your personal research.

For each course you will be expected to confirm the syllabus, produce course notes, slides and exercises sufficient for each supervision with additional information for supervisors such as solutions and extended exercises. The ratio of supervisions is one per every 4 lectures. For many courses it is helpful to produce a 'Learners Guide' that extends each syllabus point for a sentence or two.

Lectures The lecturing week begins on a Thursday and most lectures take place between the hours of 9am and 1pm. The famous portrait timetable <http://www.cl.cam.ac.uk/teaching/timetables/portrait.pdf> gives full details of all the tripos lectures.

University term dates can be viewed at

<http://www.cam.ac.uk/about-the-university/term-dates-and-calendars>

Lectures should begin at 5 minutes past the hour and end at 5 minutes to. This gives students a short break between lectures. The students also appreciate a very short pause midway during the lecture. This does not need to be for more than about a minute just to relax concentration. A joke or brief distraction is probably all that is needed.

You are **not able to** swap or change your lecture times without first liaising with Student Admin. Our lecture details are published so that any student in the University may attend. Any changes to the timetable must also be published.

Syllabus The syllabus booklets are printed in September and you will receive a request to complete your entry for the following year in June. Please see the course pages at <http://www.cl.cam.ac.uk/teaching/> to see how these should be laid out.

Lecture notes Lecturers enter their own copies of overheads and/or course notes onto the website. Instructions can be found at <http://www.cl.cam.ac.uk/teaching/1516/instructions.html>

Student Admin will arrange for your notes and slides to be printed by the UIS print room and a proof copy can be ordered.

You should email your complete set of notes and slides as a pdf to teaching-admin@cl.cam.ac.uk by **at least two weeks** before your course begins. Student Admin will then arrange for students with special needs to receive copies modified as required and in advance of lectures. Notes and slides should be on a white background so students can annotate them. They should also be on the web in one-up format to be easily read on a mobile or tablet.

Please **avoid** printing notes in the Lab reprographics room yourself as the machines are in demand and this interferes with other Lab users.

Guest lecturers and substitute teaching Lectures are generally given by University Teaching Officers (UTOs), although in some circumstances other people are used. If a Lecturer wishes to use external lecturers to cover material then he or she must seek permission, well in advance, from the Teaching Committee and this will be on the understanding that the external lecturer will not be paid.

The circumstances in which the Laboratory is willing to pay people are:

1. To cover parental/sick/compassionate leave where there is no UTO able to provide the cover. Such substitute teaching must be agreed by the Faculty Board on the advice of the Teaching Committee.
2. To cover sabbatical leave where there is no UTO able to provide the cover. Such substitute teaching must be agreed by the Faculty Board on the advice of the Teaching Committee. It must be agreed in sufficient time for the Board to make application for central funding to cover the cost (i.e. the application must be made in the financial year prior to expenditure).
3. To cover situations where it is desirable for a non-UTO to be paid for lecturing owing to special expertise. In this case the arrangement must be approved in advance by the Head of Department on recommendation from the Teaching Committee.

Recording lectures There are facilities to record lectures in the lecture theatres if you wish to and some lecturers post these on the web for revision purposes. A few students have been given permission by the Disability Resource centre to record and Student Admin will inform you if this is the case. Otherwise, students should **not** record your lectures without your permission. Some students may have note-takers for their lectures.

Student workload and guidance Guidance on expected workload and examinations for students can be found at <http://www.cl.cam.ac.uk/teaching/exams/ExaminationProcedures.pdf>

Feedback Our relationship with our students is generally a very positive one and the Lab is continually looking at ways to improve the student experience. Students complete course surveys via MOODLE and these are given to all lecturers at the end of the course. The TMC also looks at surveys each term to check all is well. The Staff Student Consultative Committee meets twice termly to discuss any issues and a focus group meeting is held once a year at the start of Easter term to consider any important issues in more depth. The Director of Studies forum meets three or four times a year and we maintain a close relationship with the colleges.

College life We hope that you will become involved with a college. As well as engaging with academic colleagues outside your own discipline, this will also enable you to contribute to the learning and teaching of our students through supervisions. Supervision, the teaching of undergraduates in small groups, is one of the main pillars which support learning at Cambridge and is the responsibility of the Colleges. You may also wish to take the opportunity to act as a College Director of Studies.

Supervisions are organised by College Directors of Studies apart from Part II which Student Admin and Lecturers arrange. If the Lab and lecturer cannot find enough supervisors, the lecturer will organise examples classes.

Some lecturers like to supervise their own courses but this is not compulsory. You can however, claim payment from colleges for supervising. This includes supervising Part II projects.

Administration roles There are a variety of roles which lecturers are asked to undertake including the following:

- Examiner
- Member of the Teaching Committee
- Member of the Faculty Board
- Part II dissertation overseer
- Overseeing Part II projects
- Membership of various committees or working parties for the development of the tripos as required.

Sabbatical leave Two terms' notice must be given when applying for sabbatical leave and applications should also not be submitted earlier than the Easter Term in the academic year two years before that for which the leave is proposed. In the Computer Laboratory, because of the requirement to examine all of the courses in Easter Term, three terms' notice are required if the leave is to be taken during an Easter Term.

Further information can be found at <https://www.cl.cam.ac.uk/local/sabbatical/>

Before making an application you need to discuss your plans with the Departmental Secretary and your arrangements for substitute teaching need to be agreed with the Teaching Committee (TMC) and Faculty Board. Lecturers are expected to arrange for their teaching to be covered in their absence.

Assessment

Formal exam notices and information can be found at <http://www.cl.cam.ac.uk/teaching/exams/>

Practical Ticks are awarded for practical work which is assessed orally, especially with respect to plagiarism, by a demonstrator or 'ticker' during practical sessions. Marks are not awarded and it is expected that all students will complete all their tick exercises. Students without a full set of ticks will receive a mark penalty. Regulations governing practical work can be found at <http://www.cl.cam.ac.uk/teaching/exams/headofdeptnotices.pdf> and on the University website.

Tripos examinations take place in the first week in June or thereabouts. Normally, you are asked to set one exam question per 8 lectures. The exam structure is published at <http://www.cl.cam.ac.uk/teaching/exams/exam-structure.pdf>

Lecturers are responsible for setting and assessing their own course's exam questions. Part IB and II questions are requested by the start of Lent term and Part IA by mid-February. During the actual exams you **must be** easily contactable (preferably in Cambridge), in case of query. After the exams

the turnaround time is very fast and marked scripts must be returned by one week after the final exam. Part IB and II results are published on the Friday of the following week and Part IA just over a week later.

How to set a good examination question Templates for exam questions are prepared for you each year. Please set questions that are neither too hard nor too easy and you should avoid re-setting questions that have been set before without first making substantial changes.

Assessors are requested to look at the median marks from past papers for guidance on the standard and to set questions which aim for a median of 13 marks out of a total of 20. Marks for past papers can be found at <http://www.cl.cam.ac.uk/teaching/exams/reports/>

Generally, it is good practice to structure your question into parts which become successively harder and build on the students' knowledge. Please note that questions must not have all the marks obtained by bookwork alone.

Please make your questions at most one page in length, preferably much shorter. If for any reason you feel that one page is insufficient please discuss your question with the examiners before submitting it.

Solution notes incorporating a marking scheme must be produced and submitted with each question. These should indicate which part of the syllabus your question refers to. **Questions should only be set on lectured topics included in the published syllabus.**

Finally if you have any queries about teaching and examinations do ask Student Admin in the first instance. For further advice about courses and teaching, you should consult the Chair of the Teaching Committee and for matters relating to examinations, the current Senior Examiners. These can be found at <http://www.cl.cam.ac.uk/local/roles/>

Guidance for students can be found at <http://www.cl.cam.ac.uk/teaching/exams/ExaminationProcedures.pdf>

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