

The Computer Science Registration Lecture for

All Computer Scientists
NST students taking the CS option
PBS Students taking the CS option

Useful People To Know



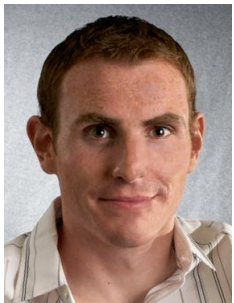
Professor Andy Hopper CBE FRS FREng FIET
Head of the Computer Laboratory



Professor Ann Copestake
Deputy Head for Teaching
Ann.Copestake@cl.cam.ac.uk



Dr David Greaves
Chair of the Tripos Management Committee
David.Greaves@cl.cam.ac.uk



Dr Robert Harle (me!)
Part IA Co-ordinator
Robert.Harle@cl.cam.ac.uk

Course Structure

- There are **two** IA CST examination papers at the end of the year:
 - Paper 1 – taken by everyone here
 - Paper 2 – ONLY for CST and **not** NST or PBS

Paper 1	Paper 2
Maths	Choice

CST

Paper 1	NST Choice
Maths	NST Choice

NST

Paper 1	PBS
PBS	PBS

PBS

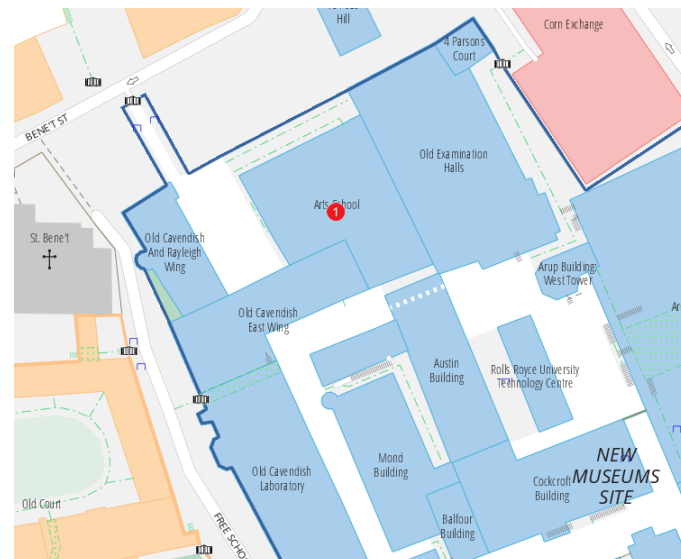
Lectures

Paper 1

- MWF 10-11
- Arts School Room A
- Foundations of CS
Object-Oriented Programming
Algorithms
Numerical Methods

Paper 2

- MWF 12-1
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- Digital Electronics
Operating Systems
Discrete Maths
Software and Interface Design

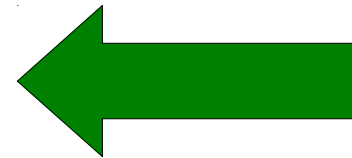


Optional Fundamentals Lectures

- We **don't** assume that you have studied any Computer Science before or that you have programmed computers before. However, many of you have some experience
- To help fill in gaps in knowledge there are four **optional** lectures given by me:



Computer Fundamentals
Optional 4-lecture course
Wednesdays, 4.15-5.15pm
In Lecture Theatre 1 - **HERE**



- The topics of each of these lectures will be emailed in advance.
The content may be assumed in other courses so you should attend if you are unfamiliar with any topic

Lectures should be Active not Passive!

- We give you lecture notes and some of you will take this as a cue to just kick back and listen in lectures

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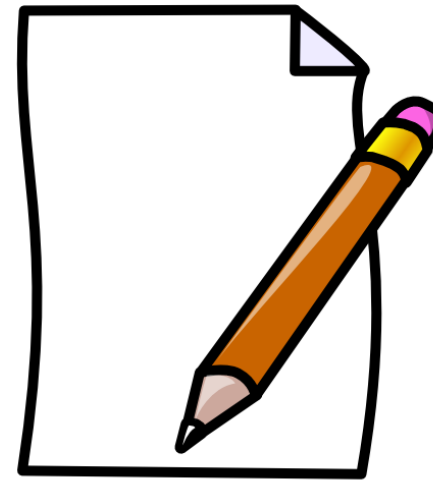
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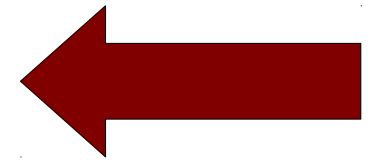
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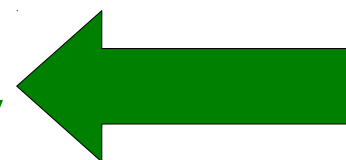


Ticks

- CS Practicals are called *ticks* because they are pass/fail. For each tick, you have multiple attempts to pass. Most students get 100% of their required ticks and this should be your aim.



Ticks are in this building
Upstairs in the Intel Laboratory



- NST/PBS students must compete **10** of the ticks to get full marks:
 - ML ticks 1-4, Java ticks 1-5, Algorithms tick 1
- CST students collect **20** ticks:
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Practical Allocations

A

Thursdays
4pm-6pm ML/Java

B

Thursdays
2pm-4pm ML/Java

Practical Allocations

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[CST Only]

AE
Thursdays
Even
Weeks 4,6,8
1.30-4pm HW

AO
Thursdays
Odd
Weeks 3,5,7
1.30-4pm HW

BE
Thursdays
Even
Weeks 4,6,8
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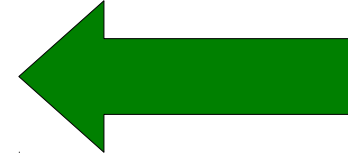
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- The group assignments are now available at <http://www.cl.cam.ac.uk/teaching/1314/Registratn/>
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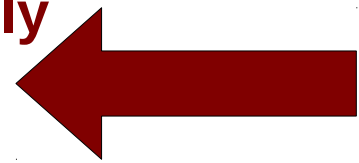
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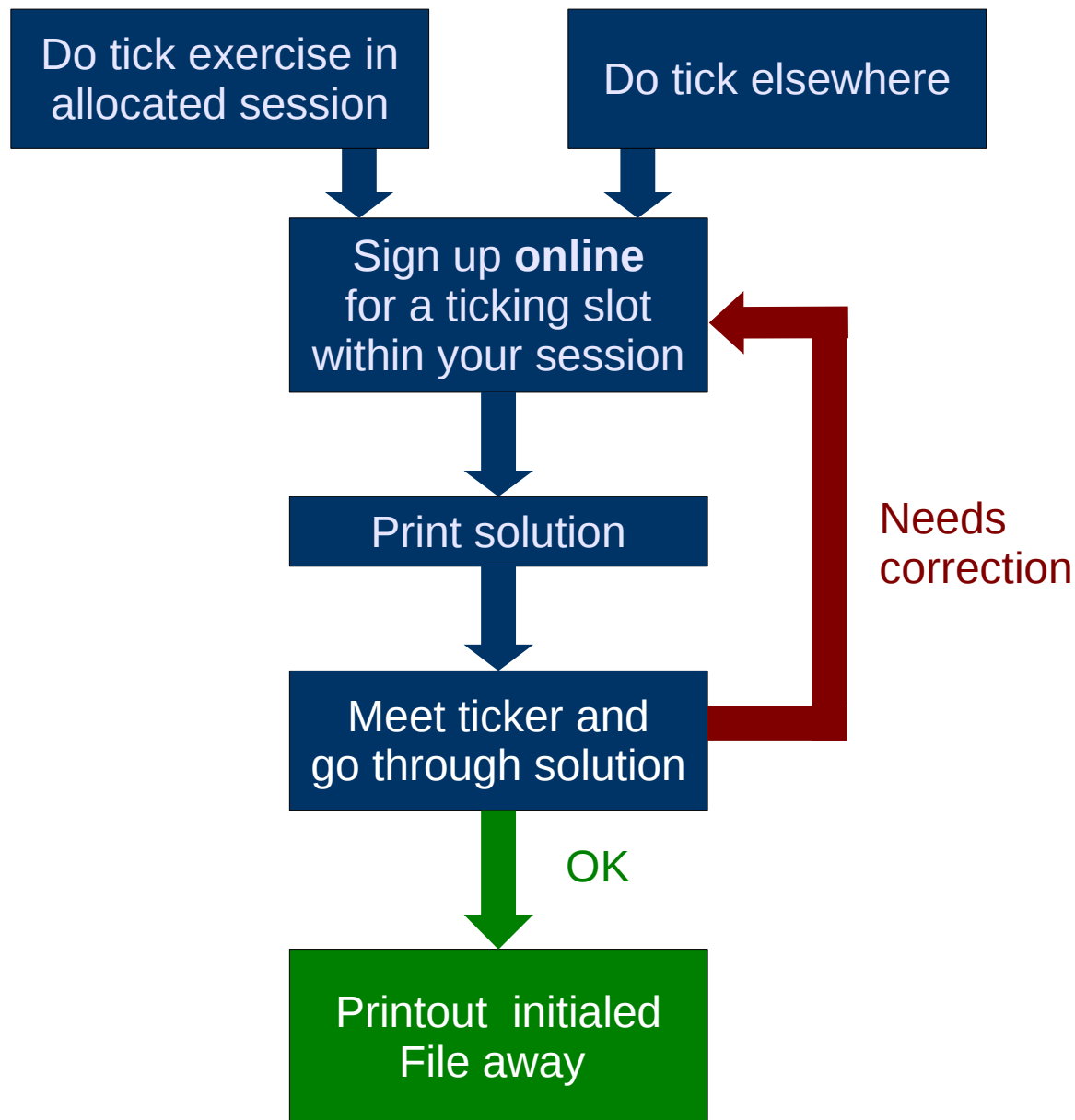
Occasional Wednesday practicals for CSTs only

Email notification will be given

Best to keep the slot free of supervisions etc



Ticking Process



The Tick Signup for ML/Java

- Online system for 5 min ticking slots
- First come, first served
- Sign up in advance or on the day

The screenshot shows a web browser window with the URL `ott.cl.cam.ac.uk/signapp/events/3nrtujdc`. The page is titled "1A Ticking Session / Week 1 / Session 1". It includes a sidebar with navigation links: Dashboard, Home, Notifications, Groups, Deadlines, Create new deadline, Supervisor Homepage, Timetable/Signups, Setting Work, and Marking Work. The main content area displays the session details: Location: William Gates Building in Intel Laboratory (Show on map), Created by: Andrew Rice (acr31), and Closing date for sign-up: Thursday, 17 October at 16:00. A green "Save changes" button is visible. Below this, a table shows the ticking slots for Thursday, 17 October. The table has columns for time slots (14:00 to 14:25) and a "Tick" column. The 14:00 slot is currently occupied by "Robert K. Harle" (username: rk23).

Thursday, 17 October				
14:00	Robert K. Harle rk23			Tick
14:05				Tick
14:10				Tick
14:15				Tick
14:20				Tick
14:25				Tick

Running Ahead

- Practicals often align to roughly to lectures
- But we give you all the ticks at once so you can race ahead if you like
- Beware: you might not learn as much this way. Ticks can be solved in different ways and you might miss the clever subtleties...

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- Some of the ticks have an extension called a 'star' to challenge you if you find the core tick easy
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Exercise 1* — Recursive Functions Continued

Note that although the following problems will not count towards a 'tick', it is a good idea to attempt them before next week's exercise.

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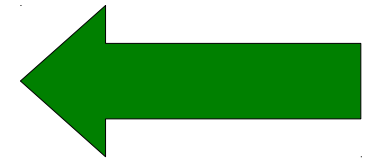
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Course Information

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 - Syllabus
 - Books
 - Lecturer contact details
 - Electronic copies of notes
 - Electronic copies of examples sheets
 - Errata
 - Additional material from the lecturer

Course pages 2012–13

Computer Fundamentals

Syllabus

Course materials

Information for supervisors

Principal lecturer: Dr Robert Harle

Taken by: Part IA CST, Part IA NST, Part I PPS

Past exam questions: Computer Fundamentals, Operating Systems

Information for supervisors (contact lecturer for access permission)

No. of lectures: 4

Suggested hours of supervisions: 1

This course is a prerequisite for Operating Systems.

Aims

The overall aim of this course is to provide a general understanding of computer systems (hardware, memory, devices), as well as how to program a computer at a low level.

Lectures

- **Computer components.** Brief history. Main components: CPU, memory, devices, motherboard, buses.
- **Data representation and operations.** Simple model of memory. Data as instructions: von-Neumann architecture, fetch-execute cycle.
- **Low- and high-level computing.** Pointers. The stack and heap. High-level languages. Compilers and interpreters. Read-eval-print loop.
- **Platforms and multitasking.** The need for operating systems. Portability. ML as a high-level language emphasising mathematical foundations.

Syllabus Booklets (Errata!)

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- Changes are predominantly grouping and ordering of content
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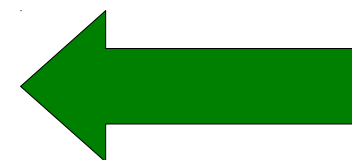
<http://www.cl.cam.ac.uk/teaching/>

Scientific Computing Course

- As part of the NST Maths course, there is a “Scientific Computing” course with three assessed exercises that count toward the maths option mark
- The content is *not* arranged or given by this department
- Information should have been provided in your NST practical allocation email yesterday

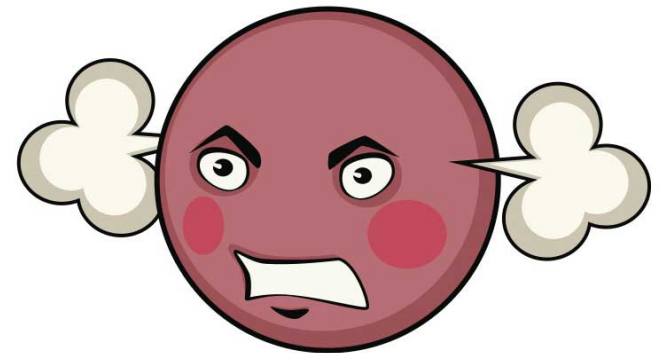


**If you do NST Maths you need to
do the Scientific Computing course
as well as this option**



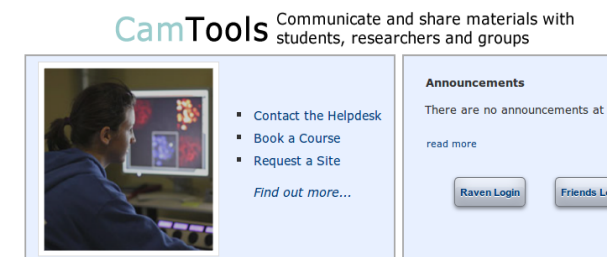
Feedback 1: SSCOF

- Staff-Student Consultative Forum
 - Allows you to give feedback to the department on anything from ticks to room temperature.
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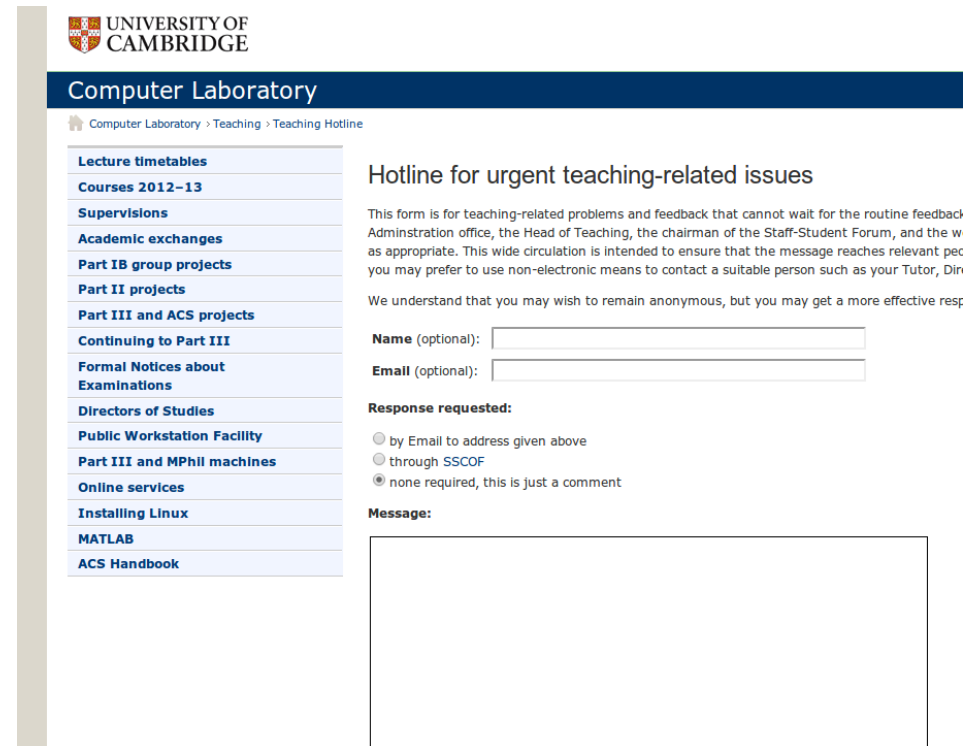
Feedback 2: Course Feedback

- We use electronic questionnaires after each course to gather specific feedback and improve
 - Please take the time to fill them out – we need statistically significant data!
 - The results are viewed by the Tripos Management Committee, the lecturer and (if they are fit to release) you!



Feedback 3: Urgent Feedback

- Sometimes there's something that needs fixing ASAP and can't wait for the feedback forms or SSCOF
- <http://www.cl.cam.ac.uk/teaching/hotline.html>
- This gives you an (**anonymous**) urgent feedback form that is sent immediately to the important people who can help



The screenshot shows the 'Teaching Hotline' page of the University of Cambridge Computer Laboratory. The page has a dark blue header with the university logo and the text 'UNIVERSITY OF CAMBRIDGE' and 'Computer Laboratory'. Below the header is a breadcrumb trail: 'Computer Laboratory > Teaching > Teaching Hotline'. A left-hand navigation menu lists various links: 'Lecture timetables', 'Courses 2012-13', 'Supervisions', 'Academic exchanges', 'Part IB group projects', 'Part II projects', 'Part III and ACS projects', 'Continuing to Part III', 'Formal Notices about Examinations', 'Directors of Studies', 'Public Workstation Facility', 'Part III and MPhil machines', 'Online services', 'Installing Linux', 'MATLAB', and 'ACS Handbook'. The main content area is titled 'Hotline for urgent teaching-related issues'. It contains a paragraph explaining the form's purpose: 'This form is for teaching-related problems and feedback that cannot wait for the routine feedback Administration office, the Head of Teaching, the chairman of the Staff-Student Forum, and the w as appropriate. This wide circulation is intended to ensure that the message reaches relevant pec you may prefer to use non-electronic means to contact a suitable person such as your Tutor, Dir'. Below this is another paragraph: 'We understand that you may wish to remain anonymous, but you may get a more effective resp'. The form includes input fields for 'Name (optional):' and 'Email (optional):'. Under 'Response requested:', there are three radio button options: 'by Email to address given above', 'through SSCOF', and 'none required, this is just a comment'. The 'none required' option is selected. At the bottom, there is a 'Message:' label followed by a large text area for the user to enter their feedback.

Professional Bodies

- Computer Science in the UK has two main professional bodies: the IET and the BCS
- Both have accredited our course so you are all eligible to join them. More details on the registration pages



- ♦ Can get chartered status
- ♦ Student: £32 for one year
- ♦ £52 for up to four years
- ♦ www.bcs.org/student



- ♦ Can get chartered status
- ♦ Student: £20 for one year
- ♦ £50 for up to four years
- ♦ www.theiet.org/join

What you should do ASAP

- 1) Check you know where your lectures are
- 2) Check you know when your lectures are
- 3) Check your Cambridge (hermes) email regularly for information
- 4) Make sure you can log onto a **MCS** (Managed Cluster Service) machine such as the ones here in the Intel Lab (where the practicals are): <http://www.ucl.ac.uk/desktop-services/mcs>
- 5) Reread these slides, which are available at <http://www.cl.cam.ac.uk/teaching/1314/Registration/>
- 6) Consider installing poly/ML on your own computer if you have one

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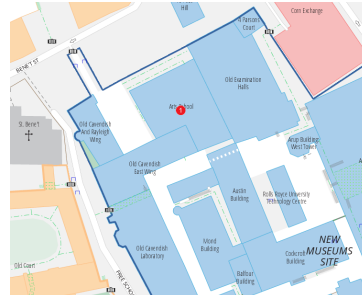
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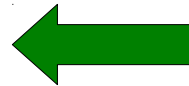
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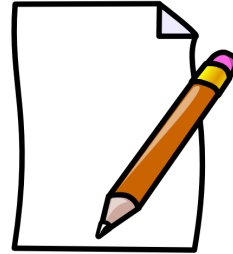
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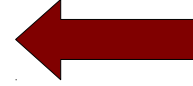
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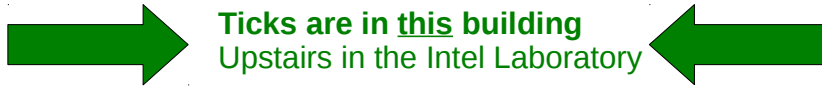


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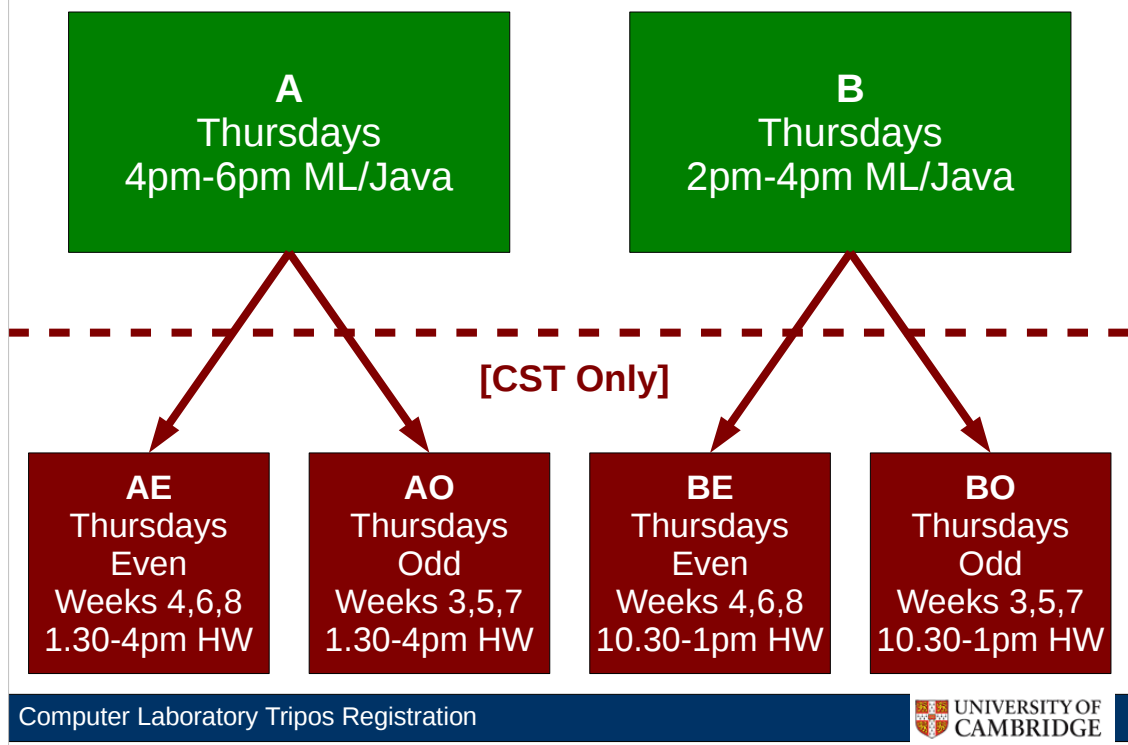
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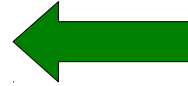


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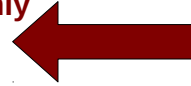
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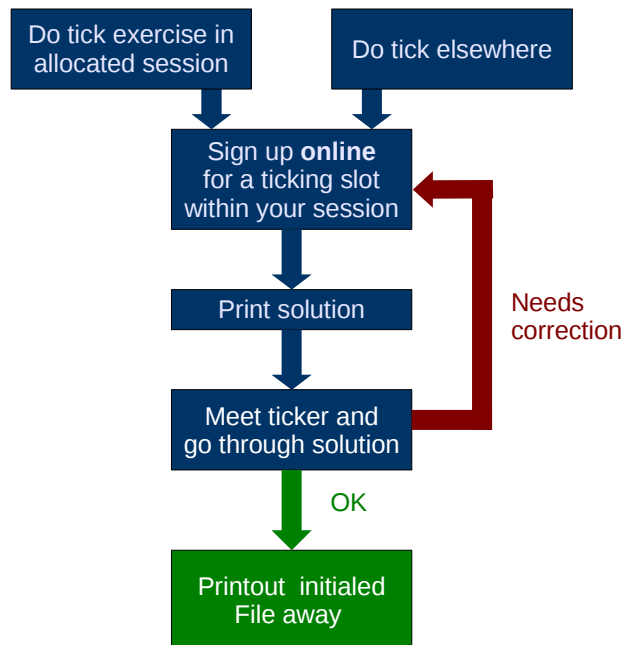
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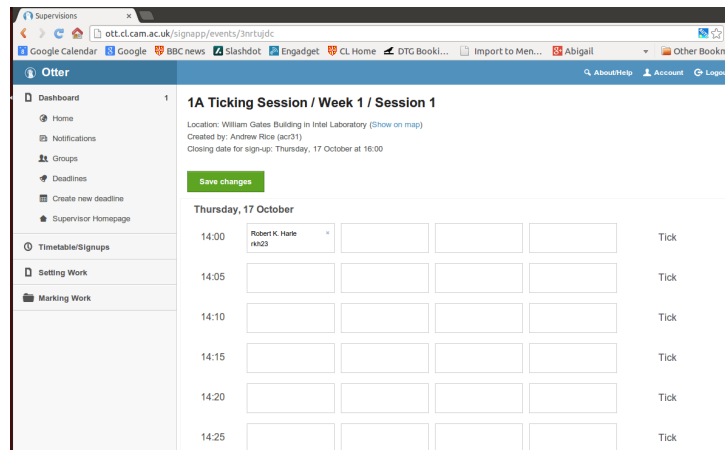


Ticking Process



The Tick Signup for ML/Java

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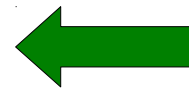
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Course pages 2012–13

Computer Fundamentals

[Syllabus](#) [Course materials](#) [Information for supervisors](#)

Principal lecturer: Dr Robert Harle

Taken by: Part 1A CST, Part 1A NST, Part 1 PPS

Past exam questions: Computer Fundamentals, Operating Systems

Information for supervisors (contact lecturer for access permission)

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This course is a prerequisite for Operating Systems.

Aims

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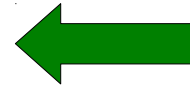
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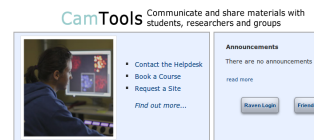
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 - Allows you to give feedback to the department on anything from ticks to room temperature.
 - You elect a CST and an NST/PBS representative to this committee. They will periodically ask for your input.



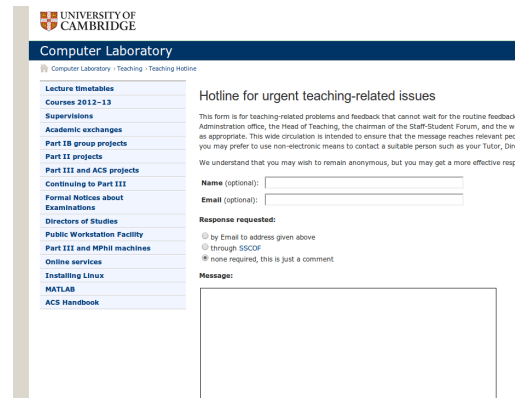
Feedback 2: Course Feedback

- We use electronic questionnaires after each course to gather specific feedback and improve
 - Please take the time to fill them out – we need statistically significant data!
 - The results are viewed by the Tripos Management Committee, the lecturer and (if they are fit to release) you!



Feedback 3: Urgent Feedback

- Sometimes there's something that needs fixing ASAP and can't wait for the feedback forms or SSCOF
- <http://www.cl.cam.ac.uk/teaching/hotline.html>
- This gives you an (**anonymous**) urgent feedback form that is sent immediately to the important people who can help



The screenshot shows the 'Teaching Hotline' form on the University of Cambridge Computer Laboratory website. On the left is a navigation menu with links such as 'Lecture timetables', 'Courses 2012-13', 'Supervisions', 'Academic exchanges', 'Part IB group projects', 'Part II projects', 'Part III and ACS projects', 'Continuing to Part III', 'Formal Notices about Examinations', 'Directors of Studies', 'Public Workstation Facility', 'Part III and MPhil machines', 'Online services', 'Installing Linux', 'MATLAB', and 'ACS Handbook'. The main content area is titled 'Hotline for urgent teaching-related issues'. It includes a disclaimer about the form's purpose, a section for 'Name (optional):' and 'Email (optional):', a 'Response requested:' section with radio buttons for 'by Email to address given above', 'through SSCOF', or 'none required, this is just a comment', and a large text area for the 'Message:'.

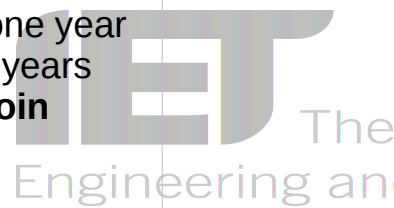
Professional Bodies

- Computer Science in the UK has two main professional bodies: the IET and the BCS
- Both have accredited our course so you are all eligible to join them. More details on the registration pages



- Can get chartered status
- Student: £32 for one year
- £52 for up to four years
- www.bcs.org/student

- Can get chartered status
- Student: £20 for one year
- £50 for up to four years
- www.theiet.org/join



What you should do ASAP

- 1) Check you know where your lectures are
- 2) Check you know when your lectures are
- 3) Check your Cambridge (hermes) email regularly for information
- 4) Make sure you can log onto a **MCS** (Managed Cluster Service) machine such as the ones here in the Intel Lab (where the practicals are): <http://www.ucs.cam.ac.uk/desktop-services/mcs>
- 5) Reread these slides, which are available at <http://www.cl.cam.ac.uk/teaching/1314/Registratn/>
- 6) Consider installing poly/ML on your own computer if you have one