IA Computer Science Registration 2018/19

For: All Computer Science Students
Natural Science students taking the Computer Science Option
The Course
There are THREE Computer Science papers in IA

**Paper 1**  
Taken by **ALL** of you (CST/NST)

**Paper 2**  
Taken ONLY by Computer Scientists

**Paper 3**  
Taken ONLY by Computer Scientists on 75% option
<table>
<thead>
<tr>
<th>Paper 3 this year</th>
<th>Paper 3 next year</th>
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<tbody>
<tr>
<td>CST Paper 1</td>
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<td>CST Paper 2</td>
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<td>NST Maths</td>
<td>MST Maths Paper 1</td>
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<td>CST Paper 3</td>
<td>MST Maths Paper 2</td>
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<td>NST Option</td>
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<td><strong>CompSci 75%</strong></td>
<td><strong>CompSci 50%</strong></td>
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<td><strong>111</strong></td>
<td><strong>11</strong></td>
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<td><strong>with Maths</strong></td>
<td><strong>with NST</strong></td>
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<td><strong>8 (Physics)</strong></td>
<td><strong>57</strong></td>
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<td><strong>NatSci</strong></td>
<td><strong>PBS</strong></td>
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The Lectures
Paper Content

Paper 1
- Foundations of CS
- Object-Oriented Programming
- Numerical Analysis
- Algorithms (2/4)

Paper 2
- Digital Electronics
- Operating Systems
- Software and Security Engineering
- Discrete Maths (2/4)

Paper 3
- Databases
- Introduction to Graphics
- Interaction Design
- Machine Learning and Real World Data (2/3)
The definitive source of information is [www.cl.cam.ac.uk/teaching](http://www.cl.cam.ac.uk/teaching)

- Syllabuses
- Books
- Lecturer contact details
- Notes
- Examples sheets
- Errata
- Additional material
P1 and P2 Lectures are on the Mill Lane Site

Paper 1: MWF 10.00 Mill Lane LT9
Paper 2: MWF 12.00 Mill Lane LT9
P3 Lectures/Labs are in the CL (here!)

Paper 3: TuTh 11.00 Computer Lab
MW afternoon practicals
The Pre-Arrival Course

You should have completed the course already
If not, speak to me urgently afterwards

The content will be assumed from the start and throughout the year
Make sure you understand everything
Talk to your DoS if you’d like to go over things with a supervisor
The Practicals ("Ticks")
Assessed but *not* Graded

Unlike other subjects we do not give each practical a grade on a scale. Ours are strictly pass/fail and we call them *ticks* to emphasise this.

They are intended to cement lecture material and in some cases extend it. They count towards your result for the year but the expectation is that everyone gets 100% of their ticks.
Starred Ticks

Some ticks are accompanied by “starred” versions. These are intended to be more involved or to cover more advanced material. They are strictly non-examinable. As such they are entirely optional. Students choose to do them for the challenge or to further their experience.
Three Types of Practicals

1. Programming Practicals for ALL

Associated with Paper 1 and done by all of you*
Includes FoCS/ML, OOP/Java and Algorithms
_Ticked on Thursday afternoons_

* FoCS/ML tick 5, Algorithms ticks 2, 3 are actually Paper 2 so CST only
Three Types of Practicals

2. Hardware Practicals for 50% and 75%

Associated with Paper 2 so CST only
Linked to Digital Electronics course
*Run on Thursday and Friday 13.30-16.00*
Three Types of Practicals

3. Practicals for 75%

The 75% option is taught in a more hands-on style
Fewer lectures (2 per week) and more practicals (2 per week)
Boundary between lecture and practical blurred for some courses
*Run on Monday and Wednesday afternoons for this term*
Specific Requirements for each Paper

Paper 1
4x ML (ticks 1,2,3,4)
5x Java
(ticks 1,2,3,4,5)
1x Algorithms (tick 1)

Paper 2
1x ML (tick 5)
2x Algorithms
(ticks 2,3)
7x Hardware

Paper 3
3x Databases
3x Graphics
7x Machine Learning
3x Interaction Design
Programming Practicals (Paper 1)

Run like the pre-arrival course

NO practical sessions per se
Work at home in your own time

Automated assessment online via Moodle
As per the pre-arrival course

In-person meetings with “tickers” every fortnight
“Ticking” checks for plagiarism and provide feedback on your code
Programming Practicals: Help

**Online Forums**
As per the Pre-Arrival course
We’ll monitor them but we hope you will help your peers!

**Supervisors**
Your supervisors are a great resource for more one-to-one help

**Demonstrators**
Some weeks will have one or two demonstrators available during the ticking sessions. They are typically previous IA students.
Programming Practicals: Timings this Term

Programming ticks will be **set on Fridays**
Starting tomorrow!

You must pass the automated tests by **Monday 10 days later**

**Ticking will occur over the following fortnight**
In 5 minute slots on Thursday afternoons between 13.30 and 16.00
You only get ticked **every two weeks**
You will be split into two groups: **E and O**
E members will have ticking sessions every Even numbered week (4,6,8)
O members will have ticking sessions every Odd numbered week (3,5,7)
“Weeks” start on Thursdays! **Today is the start of week**

There are specific series you can sign up to at http://timetable.cam.ac.uk once you know your grouping
Programming Practicals: Logistics

When you arrive your ticker will select a tick to discuss
You see them once a fortnight so you should have two ticks to choose from
The choice will be theirs, not yours

(Very) Occasionally a ticker is dissatisfied with a submission
Maybe it is badly coded or you couldn’t convince them you knew how it worked
Minor corrections: fix it while they see a few more people, then come back
Major corrections: speak to whoever is running the session and they will take a look with you
“But I don’t want to come to the CL for 5 minutes”

- It’s only four or so times a term
- You can talk to demonstrators to get help with ticks
- Since you’re here, consider using the study facilities
- CSTs: Where possible we will schedule programming ticks on the same week as your hardware practicals (you can leave the practicals for 5 minutes - ticking is in the same room).
Hardware Practicals (Paper 2, CST Only)

One practical every fortnight on Thursdays or Fridays
You will be assigned a day
Sessions are 13.30-16.00

**Must be in the lab** as it needs specialist equipment

Work through the exercises in **pairs**

**First hardware practical starts in week 3 (Oct 18th, 19th)**
Swapping Practical Slots

If it is really necessary, you can swap slots with someone else. You must get the agreement of the other person. You must tell us about the swap (email teaching-admin@cst.cam.ac.uk). Swaps should be permanent wherever possible.
Illness and Extensions

You can request an extension if:
If you miss a submission deadline for good reason (e.g. illness)
If you miss a ticking session for good reason

Extensions will not be granted if you repeatedly request them without good reason

All extension requests should be sent to student-admin@cst.cam.ac.uk
You **must** CC your DoS, who will need to **explicitly** support the request.
Christmas Vacation Work

The Java Practicals include tick 5, which is a vacation tick for ALL.

The ML Practicals include tick 5, which is a vacation tick for 50% and 75% NST or PBS students can do it for interest.

There is a new CST Scientific Computing course for 50% and 75% Python-based data analysis
Done over vacation instead of NST scientific computing course.
Miscellaneous Stuff
The NST maths course includes an assessed “Scientific Computing” module. This is NOT related to the CST papers and the content is not given by this dept.

CST students: Do a different course on Python, run by us over the vacation.

NST students: Do the NST Scientific Computing course.
Recording Lectures

Recording lectures is forbidden unless you have the prior approval of the lecturer or disability centre.

(If you are given permission, recordings should be made for personal use only and deleted after use without sharing.)
Any questions..?