IA Computer Science Registration 2018/19

For: All Computer Science Students
Natural Science students taking the Computer Science Option

The Course

Course Structure

There are THREE Computer Science papers in IA

Paper 1

Taken by ALL of you (CST/NST)

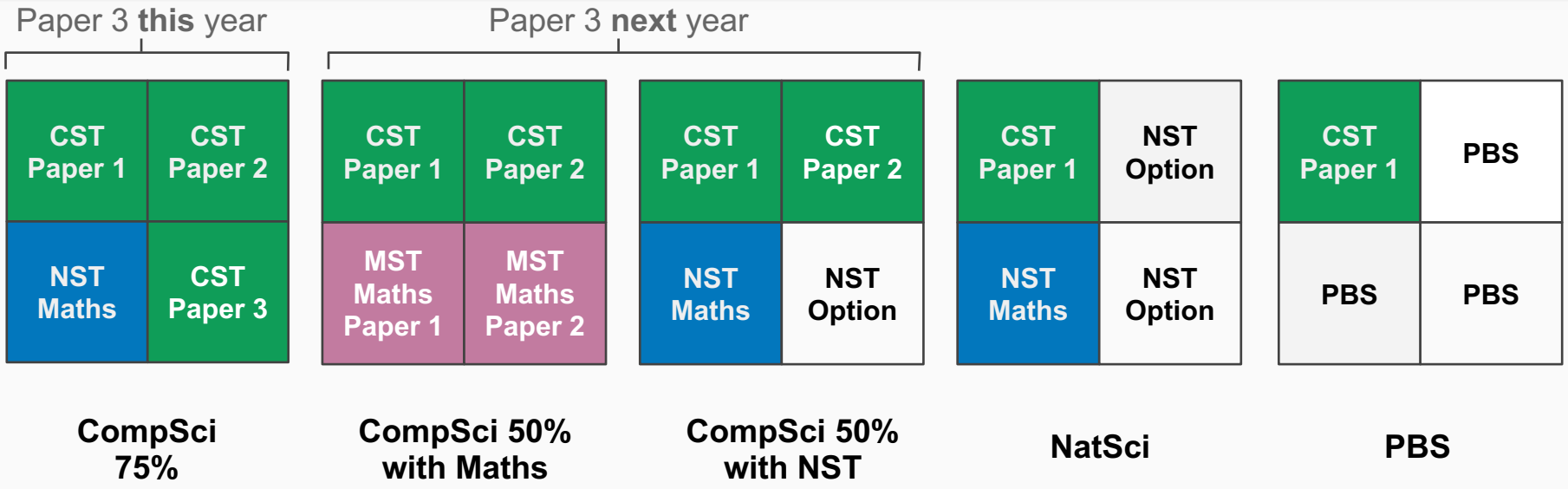
Paper 2

Taken ONLY by Computer Scientists

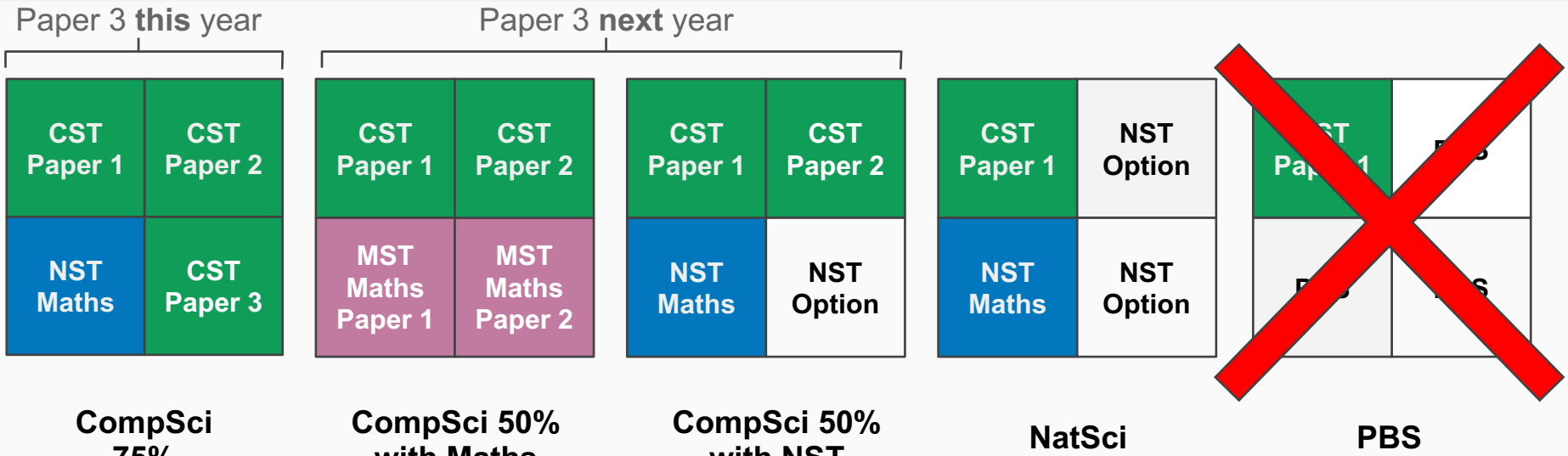
Paper 3

Taken ONLY by Computer Scientists on 75% option

The Bigger Picture



The Bigger Picture



CompSci 75%	CompSci 50% with Maths	CompSci 50% with NST	NatSci	PBS
111	11	8 (Physics)	57	0

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

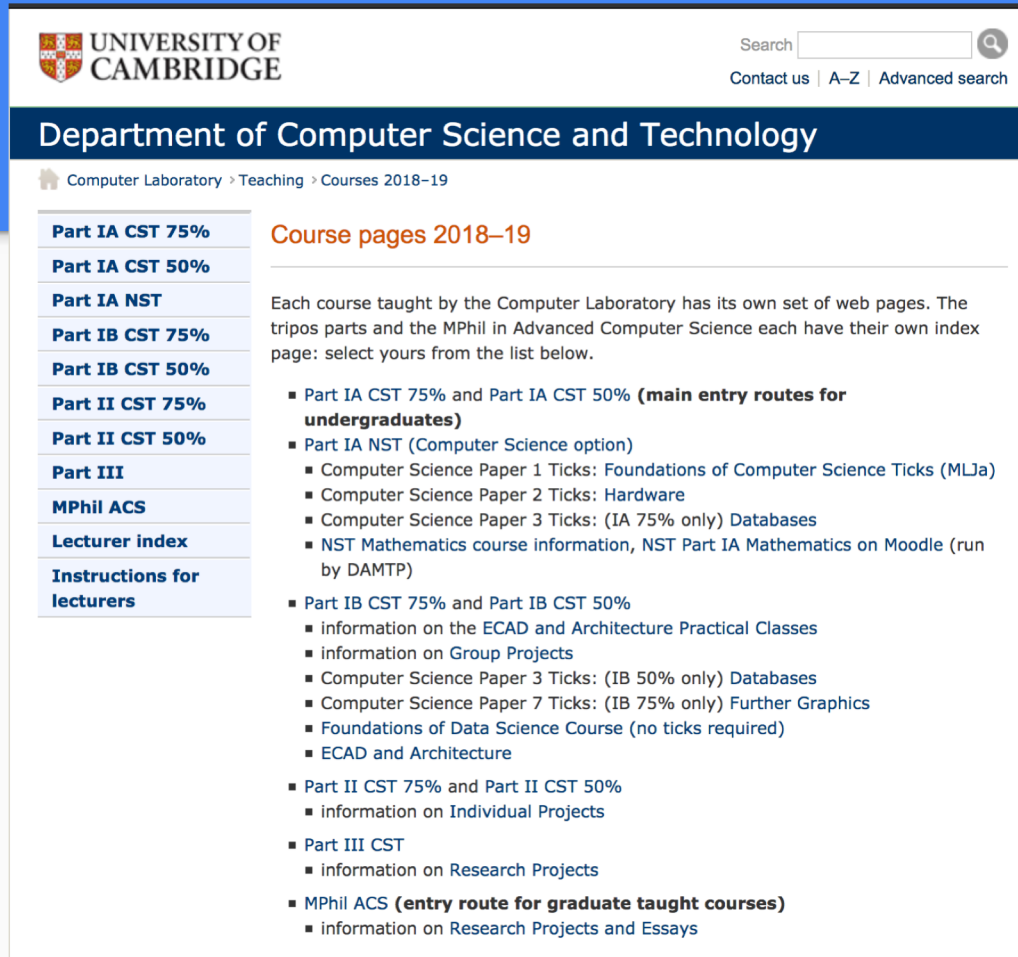
Interaction Design

Machine Learning and Real World Data (2/3)

Lecture Course Info

The definitive source of information is www.cl.cam.ac.uk/teaching

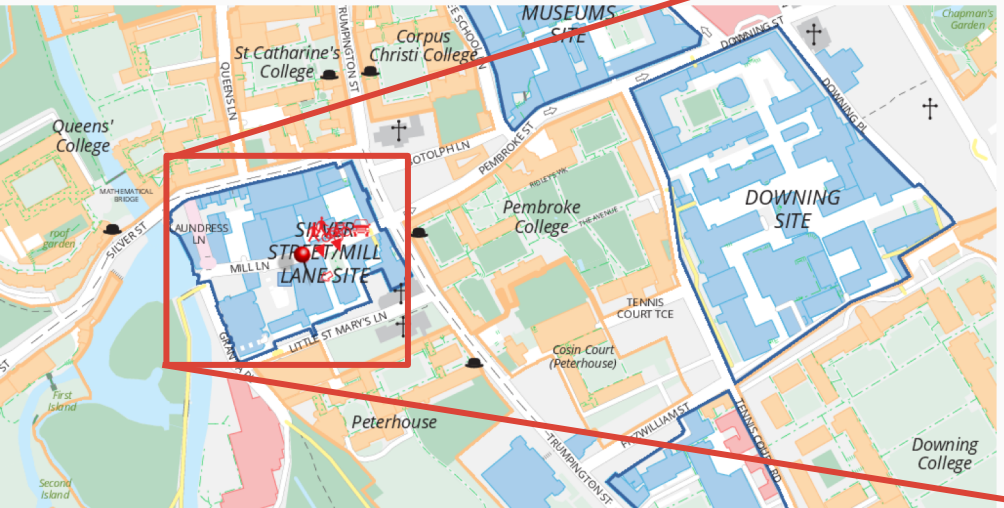
- ★ Syllabuses
- ★ Books
- ★ Lecturer contact details
- ★ Notes
- ★ Examples sheets
- ★ Errata
- ★ Additional material

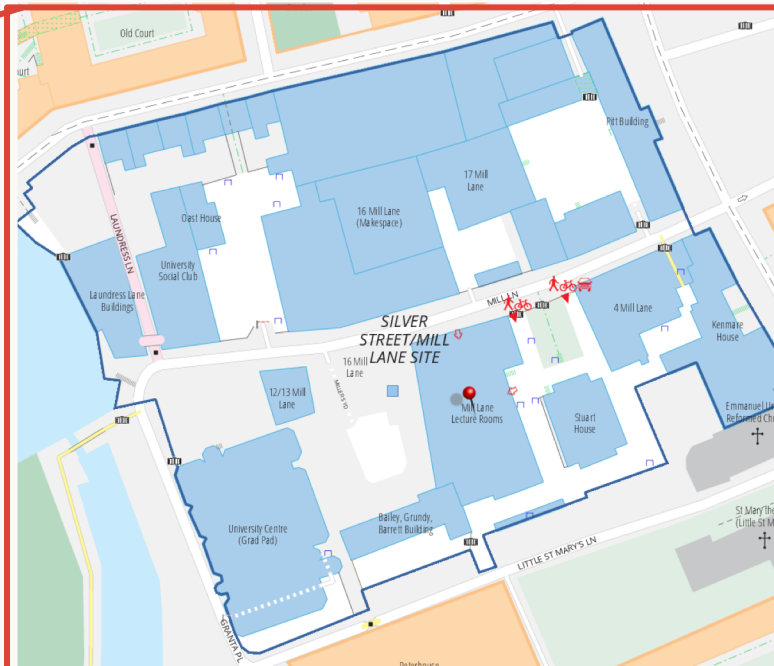


P1 and P2 Lectures are on the Mill Lane Site

Paper 1: MWF 10.00 Mill Lane LT9

Paper 2: MWF 12.00 Mill Lane LT9

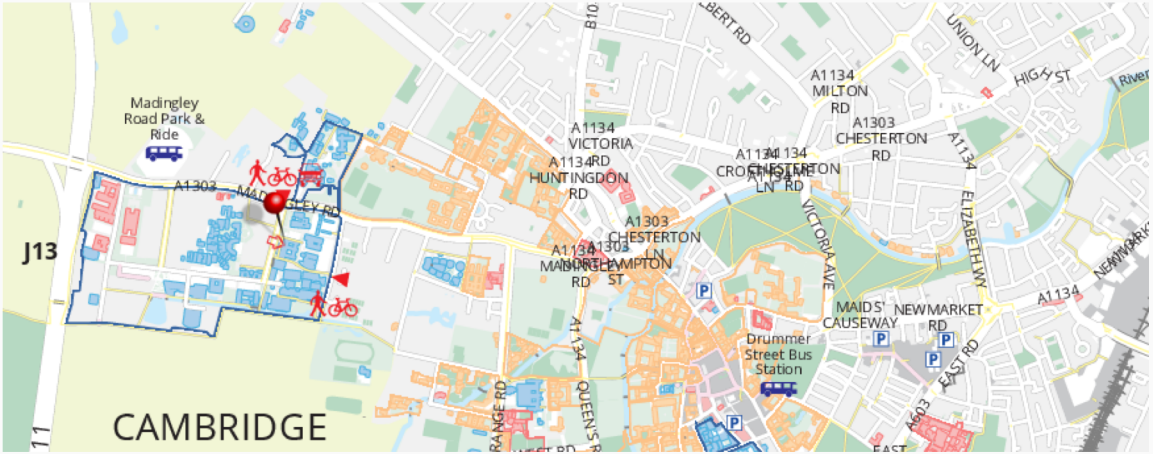




P3 Lectures/Labs are in the CL (here!)

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

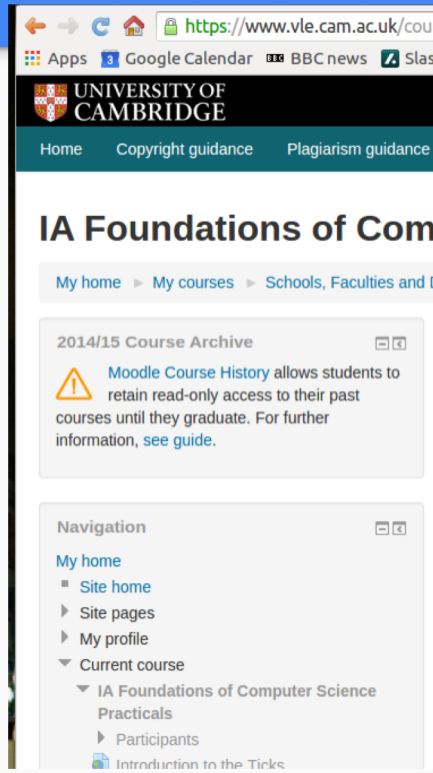
Work at home in your own time

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**

Programming Practicals: Logistics

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

NST Scientific Computing Course

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..?