MSc in Computer Science &
Year in Computer Science (ICY)
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What is MSc Computer Science?

- It is a one-year course.
  - Meant for students from non-Computer Science disciplines.
  - If you already have a Computer Science degree, you need to talk to me.
- University of Birmingham started offering it in 1968 (probably the oldest such programme in UK)
- We take roughly 200 students per year, may be more this year!
Why study Computer Science?

• Computers are everywhere!
  – Arts, sciences, engineering, medicine, business, …
  – Manufacturing, Services, Control, …

• No matter what job you choose to do, you are likely to use computers in it.

• No matter what life you choose, there are going to be computers in it.
Why study Computer Science?

• Computer Science is **fun**!
• You get to be creative in making the computer do what you want, and get to see the results within minutes.
• Computer Science is also **challenging**!
• The computer is incredibly dumb, and getting it to do what we want, builds:
  – Logical thinking.
  – Analytical skills.
  – Imagination.
  – Ability to predict, understand, and control processes.
Why study Computer Science?

Code.org
School of Computer Science

• One of the oldest CS departments in the country (50+ years).
• World-leading academics that have joined us from all over the world.
• Lively and friendly place to teach and learn.
• Guardian ranking (in 100+ departments):
  – 7th in UK in 2012-13, 1st in 2013-14, 8th in 2017-18
• Among the best departments for
  – student satisfaction in the NSS,
  – Teaching Evaluation Framework, and
  – graduate employability.
Structure of the MSc CS course

- Total 120 credits of courses + 60 credits project
  - Software Workshop 1 and 2 (40 credits, 2 semesters)
    - Intensive programming course using Java.
    - Also associated languages for web and databases.
    - Weekly lectures and tutorials.
    - Weekly exercises.
  - Data Structures, Algorithms and Databases (20 credits)
    - The principles underlying programming and design.
  - Computer Systems (20 credits)
    - Deals with how computers work
    - Both in hardware and “system software”.
    - Computer networks
Structure of the course (contd)

• Total 120 credits of courses + 60 credits project
  – Building Usable Software (20 credits)
    • “How to do it well”
    • Interfacing with human users and social aspects
    • Software development process (other than programming): requirements, prototypes, project management, testing, maintenance
  – Artificial Intelligence and Machine Learning (20 credits)
    • Letting programs do things for us “on their own”
    • Human-like abilities: seeing, hearing, planning, moving
    • Learning capabilities so that we don’t have to program everything.
Structure of the course (lastly)

- Total 120 credits of courses + 60 credits project
  - Final project (60 credits)
    - To be done in summer (June-September)
    - On a topic of your choice, under the guidance of a supervisor.
    - Put into practice all that you have learnt in your course.
    - You do it yourself from the beginning to end
    - Conception, planning, design, implementation, testing, getting user feedback etc.
    - Write a report (or “dissertation”)
    - Marked your supervisor and another lecturer, jointly arriving at a mark.
Practical issues (1)

• Information and Help
  – School web site
    • Look for “School intranet” at the bottom
    • [https://intranet.birmingham.ac.uk/eps/eps-school-intranets/computer-science/index.aspx](https://intranet.birmingham.ac.uk/eps/eps-school-intranets/computer-science/index.aspx)
  – Learning Support Office (Reception desk)
  – Course information/announcements:
    • There will be a page on Canvas for MSc CS, similar to this one:
      • [https://canvas.bham.ac.uk/courses/47682](https://canvas.bham.ac.uk/courses/47682)
Practical issues (2)

• Teaching materials
  – Made available on Canvas
  – canvas.bham.ac.uk
  – All *registered students* will have access to the courses they have registered for.
  – Syllabus, teaching videos, exercises, announcements, discussion boards, email.
  – You also submit course work on Canvas and receive feedback.
Practical issues (3)

• Personal advisor/tutor
  – Every one of you will be assigned a lecturer as a personal advisor.
  – You will meet them at least once a term, perhaps more often.
    • to review progress, address any difficulties, or to ask any questions that nobody has answers to.
  – If they don’t have answers, you come to me!
Practical issues (4)

- Welfare Officer/Welfare team
  - Look for “Support” on the Student Handbook.
  - If anything goes wrong with your studies (illness, family emergencies), please contact them immediately.
  - You normally hear back within 24 hours.
Practical issues (5)

• COVID times
  – The teaching format has been adapted to allow for illnesses, both yours and the lecturers’.
  – Online and lecture room contact.
  – Some students may be off-campus (even abroad).
  – Allow for possible lock-downs.
Keep in mind

• It is **12 month course**.
  – No breaks!
  – During the Christmas break, you might have essays to work on.
  – During the Easter break, you will need to revise for final exams.
  – Right after the final exams, you will need to start your final project.
Graduation requirements (1)

• MSc Students
  – Pass mark is 50%.
  – Must pass at least 80 credits out of 120.
  – Minimum of 40% on every module.
  – Must achieve an overall average mark of 50%.

• If you do not pass the semester exam, you can have another attempt in September.

• But Only One Attempt!
Graduation requirements (2)

• Resit or Repeat
  – Resit: Attempt the final exam again.
  – Repeat: Return next year to take the module again.
  – I will have a meeting with everybody that needs advice after the May exams.