

Dr. Duncan Hull

Contents

About	5
Background	5
Tools	6
1 Students	7
1.1 All years: debug your CV	8
1.2 First year	8
1.3 Second year	8
1.4 Penultimate year	8
1.5 Final year	9
1.6 Masters	9
1.7 Extra-curricular	9
2 Employers	11
2.1 Recruiting students	12
2.2 Careers fairs	12
2.3 Industry Club	12
2.4 The Wednesday Waggle	13

3	Research	15
3.1	SIGCSE	15
3.2	Code Club	16
3.3	Wikipedia	16
3.4	Informal publications	16
3.5	Formal publications	17
4	Vertical tutoring	19
4.1	Full stack mentoring	19
4.2	What is good for?	20
5	Contact	23
5.1	Office	23
5.2	Elsewhere	24
5.3	Postal address	24
5.4	How to get to the Kilburn buiding	24
5.5	Nearest car parks	25

About



Hello, my name is Duncan. I'm a lecturer in the Department of Computer Science at the University of Manchester where I lead the Industrial Experience (IE) program. This elective course has over 100 students every year working for 12 months in industry in the penultimate year of their degree.

I teach undergraduate courses, supervise tutorials, final year projects and masters projects. I serve as second year tutor, employability tutor, on the mitigating circumstances committee and the exam board. I'm interested in better teaching and learning methods, for example using innovative techniques like vertical tutoring and industrial mentoring to improve learning and the student experience.

If you are an employer who would like to recruit a summer intern, placement student or graduate please get in touch. During term time, we highlight opportunities for students via the Wednesday Waggle.

Background

My background is a mixture of Natural Sciences (Plant Sciences, BSc), Computer Science (MSc & PhD) and software engineering. I've worked as a consultant and software developer for various organisations including BBC Monitoring, the Ford Motor Company and the National Health Service (NHS).

While working on the Apache Taverna, myGrid and Refine project I completed a PhD and postdoc in Bioinformatics at the University of Manchester. More recently, I was employed as a software engineer of a biochemical database (Chemical Entities of Biological Interest: ChEBI) in Cambridge, UK at the European Bioinformatics Institute (ebi.ac.uk).

I have taught english, maths, science and engineering from primary level to postgraduate level. In 2011, I completed a PGCE at the University of Bath and trained at non-selective state-funded schools in Swindon, Shaftesbury and Stockport. I enjoy the challenge of teaching and over the last 30 years, have taught primary & secondary school children (K–12), undergraduates & postgraduates in the UK, India and America.

Tools

This website is written in R markdown and built using bookdown, gitbook, JabRef, JavaScript, knitr, LaTeX, pandoc, RStudio and Visual Studio Code. Thanks to Yihui Xie for the tools. The source is available on github. I could have (should have?) used blogdown and Hugo, but opted for bookdown because it is much less bloated easier to use.

Chapter 1

Students

I teach, mentor, tutor and lecture on a variety of undergraduate and post-graduate courses shown below.

`\begin{figure}`



`{`

`}`

`\caption{Question everything, or Nullius in verba as the say at the Royal Society. Picture via flickr.com/photos/dullhunk/202872717. Attribution 2.0 Generic (CC BY 2.0)}` `\end{figure}`

1.1 All years: debug your CV

- You can drop-in to my weekly one-to-one CV clinics for Computer Science students in LF25 during term-time. Whatever stage you are at, it is a good idea to **debug** your CV, LinkedIn, job search, life etc before you show it to a potential employer. These sessions are open to undergraduate (BSc, BEng) and postgraduates (MSc and PhD). If you haven't written a CV, résumé or LinkedIn profile before, you might find the *Debug your CV* guide useful at git.io/mycv.
- Outside of term time, it's best to book an appointment

1.2 First year

- First year team projects: COMP101 led by Ulrike Sattler
- Mentoring one group of six first year students
- Organise first year guest lectures, which mostly run in the second semester, February to May

1.3 Second year

- Second year software engineering: COMP23311 led by Suzanne Embury
- Lab organiser for the software engineering mentoring program
- Leading second year tutorials COMP2CARS and being a second year tutor to a group of six students

1.4 Penultimate year

- Course leader for “with industrial experience” (IE), an elective and intercalated year in industry.

1.5 Final year

- Supervising final year educational projects based in secondary schools in Manchester, see git.io/computinged.

1.6 Masters

- Supervising Master of Science projects in Computer Science and Data Science. This often includes research using Wikipedia, Wikidata and chatbots.

1.7 Extra-curricular

- Organise, facilitate and promote extra-curricular activities, usually off-timetable (for example Wednesday afternoons, evenings and weekends). I'm proud to have served as a judge of the fantastic studenthack.com and greatunihack.com since they started in 2014. These hackathons are organised by UniCS, a student-led tech society formerly known as HackSoc and CSSoc.

Chapter 2

Employers

We work with a wide range of employers from the bedroom startup to the worlds largest multi-national corporations, and are always looking for more organisations that can offer our students a stimulating environment to work in. According to highfliers.co.uk, the University of Manchester is one of the most targeted Universities in the UK by the Times Top 100 Graduate Employers. We can do better, for example, by engaging more with new employers, especially those in Manchester (see git.io/manc).



2.1 Recruiting students

If you are recruiting computer scientists and software engineers as a summer interns, placement students or as graduates please get in touch with me or Mabel Yau (careers and placements officer). We typically have around 250 undergraduate students graduating annually, alongside a smaller number of Masters and PhD students.

If you are looking to recruit students from related degree disciplines like Physics, Maths, Chemistry, MACE and EEE you should talk to the Careers Service centrally at careers.manchester.ac.uk

2.2 Careers fairs

Our annual Computer Science careers fair is held the Kilburn building in autumn, we typically have around 30 employers exhibited over two days.

We also run drop-in sessions where employers can come in and set up a stand in the foyer to talk to students informally on their way to and from lectures, usually during lunch in term time. If you're interested in exhibiting at either of these, please contact the careers and placements officer Mabel Yau.

The central careers service also organises

- the big careers fair in Manchester Central every autumn, see the Big Careers Fair
- a smaller careers fair in Fallowfield Armitage centre in May
- many other employer events on campus during term time

2.3 Industry Club

Employers are welcome to join our industry club mailing list by sending an email to listserv@listserv.manchester.ac.uk with the the text **subscribe cs-industryclub yourfirstname yoursecondname** in the body of your message.

You will receive two to three updates per year and an invitation to our industry club meetings which usually happen every year. We promise not to spam you or sell your details on to third parties.

2.4 The Wednesday Waggle

During term time, we highlight events and vacancies from a wide range of sources to students via the Wednesday Waggle. If you have vacancies or events you would like our students to know about, get in touch.

Chapter 3

Research

My research interests are in Computer Science Education (CSE) and pedagogy. I am particularly interested in better teaching and learning methods that help students to develop skills they need for the wide range of careers they go onto after graduation. This includes “hard” technical and “soft” non-technical skills.

`\begin{figure}`



`}`

`\caption{Too many educational practices are not backed up by good evidence that they actually work. More evidence is needed to support some of the claims made about pedagogy. Wikipedian Protester cartoon by Randall Munroe at xkcd.com/285 Creative Commons Attribution-NonCommercial 2.5 License}` `\end{figure}`

3.1 SIGCSE

In the UK we have only been teaching Computer Science to undergraduates for 50 short years, so there’s lots of open questions about how to teach both the practical and theoretical aspects of the subject. To that end:

- I'm an active member of the Association for Computing Machinery (ACM) Special Interest Group (SIG) in Computer Science Education (SIGCSE.org).
- As part of that I founded and chair a journal club for educators in Manchester, if you'd like to join us, subscribe to the mailing list by emailing listserv@listserv.manchester.ac.uk with the text **subscribe sigcse-journal-club yourfirstname yoursecondname** in the body of your message
- I'm serving on the program committee for Computing Education & Practice (CEP) conference at Durham University in 2020.

3.2 Code Club

I lead an after school CodeClub as part of a global network of free coding clubs for 9–13 year olds. The aim is to have fun using scratch, python and other interesting technology we can get our hands on including Raspberry Pi, Micro:bits, LEGO® MINDSTORMS®, Oculus Rift, Sonic Pi and CodeBug etc.

3.3 Wikipedia

Wikipedia (and its sister project wikidata.org) are great tools for improving digital skills and communication skills, regardless of your age or level of computer literacy. As an experienced and long serving editor of Wikipedia since 2004, I organise and participate in edit-a-thons which recruit and train new Wikipedia editors. More information at:

- wiki-loves-scientists.org.uk
- en.wikipedia.org/wiki/User:Duncan.Hull

3.4 Informal publications

Informal publications can be found on my sporadically updated blog

- duncan.hull.name/lablog

3.5 Formal publications

Formal peer-reviewed publications can be found on DBLP, ORCID and Google Scholar...

- dblp.org/pid/h/DuncanHull
- orcid.org/0000-0003-2387-503X
- scholar.google.com/citations?user=iDJ-t7IAAAAJ

...and even wikidata:

- wikidata.org/wiki/Q47012855

Chapter 4

Vertical tutoring

Starting in September 2019, we are experimenting with a vertical tutoring system for undergraduate students. The idea is widespread in secondary education (see verticaltutoring.org), but as far as we know has not been used in higher education.

Extending the idea of Peer Assisted Study Sessions (PASS) pass.manchester.ac.uk, vertical tutoring creates tutorial groups with a representative from *one of each* year of undergraduate study combined with alumni.

4.1 Full stack mentoring

A vertical tutor group will typically contain five members as shown in Figure~??. The group meets physically and virtually via a slack channel which consists of:

1. One first year student
2. One second year student
3. One penultimate year student (out on industrial placement)
4. One final year student
5. One member of our alumni via network.manchester.ac.uk

Vertical tutor groups meet twice per semester. It is very unlikely that a free timetable slot for all years and alumni can be found during normal office

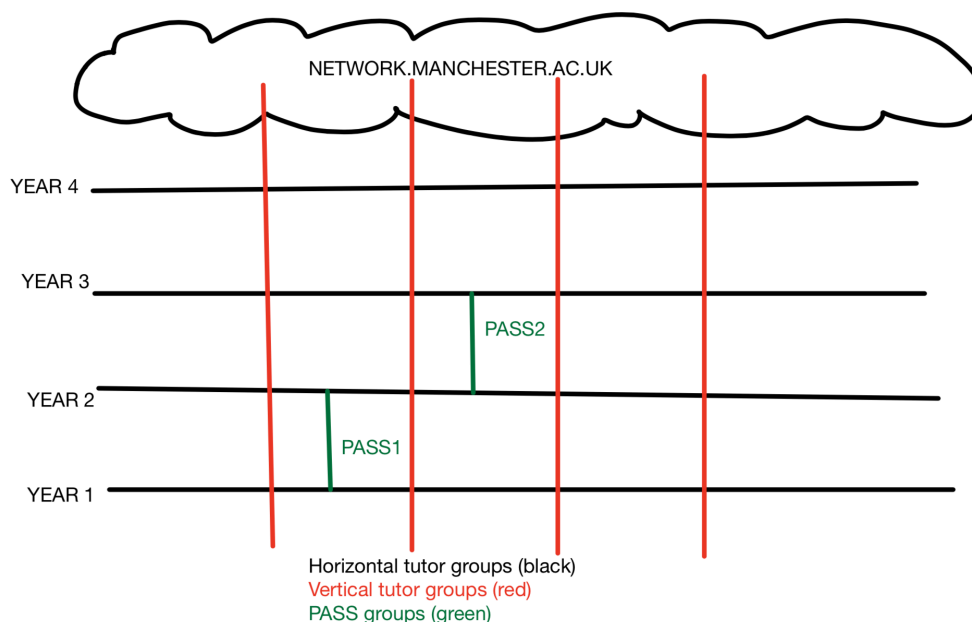


Figure 4.1: Conventional horizontal tutor groups (shown in black) bring together a group of students in the same year. For example, year 1 students meet as a group once per week during term time. Vertical tutor groups (shown in red) are made of of one student from each year and an alumni. Vertical tutor groups extend the idea of PASS, to full stack mentoring, crossing all levels

hours, because of the complexities of timetabling. So evenings will be likely to work best. Where possible, tutor groups will meet face to face, with remote members (e.g. placement students and alumni) typically joining virtually by slack or similar.

4.2 What is good for?

Vertical tutoring is an attractive idea but does it actually work? If so, how? What is it useful for? We would like to find out:

1. If there is any appetite for vertical tutoring amongst students and

alumni

2. How it could work e.g. with slack.com or discordapp.com etc?
3. How many times can/should vertical tutor groups meet? Twice per semester? More frequently? Less frequently?
4. What are suitable topics for discussion in a vertical tutorial? Careers, mental health, networking etc
5. What kind of specialist groups could be useful e.g. all female group , research focussed tutorial group (with MSc & PhD student), ordinary “vanilla” group etc

Chapter 5

Contact

You can contact us using the the details below

5.1 Office

From the Byte cafe, our office can be found in the Kilburn building, past the Student Support Office (SSO), through the double doors, down the ramp.

Dr. Duncan Hull, Lecturer

- Room LF25, Kilburn Building:
- email: duncan.hull@manchester.ac.uk
- telephone: +44 161 275 6186
- [linkedin.com/in/duncanhull](https://www.linkedin.com/in/duncanhull)

Mabel Yau, Careers and placements officer

- Room LF26, Kilburn Building:
- email: mabel.yau@manchester.ac.uk
- telephone: +44 161 275 6140
- [linkedin.com/in/mabel-yau](https://www.linkedin.com/in/mabel-yau)

5.2 Elsewhere

You can also find me on t'interwebs at:

- Slack: search for “Duncan Hull” or my work email
- Skype: search for “duncanhull”
- Blog: duncan.hull.name
- Github: github.com/dullhunk
- Twitter: twitter.com/dullhunk

5.3 Postal address

Send post to :

Dr. Duncan Hull, Lecturer
Department of Computer Science, Kilburn Building
The University of Manchester
Oxford Road
Manchester, M13 9PL

5.4 How to get to the Kilburn buiding

It takes about 20 minutes to walk from Manchester Piccadilly (MAN) and ten minutes from Manchester Oxford Road (MCO). The official postcode (M13 9PL) takes you to University Place next door, so you're better off using the what3words locations below which are more accurate.

- Directions bit.ly/directions-to-kilburn-building
- There are two ground floor entrances to the Kilburn building, North and South
 - North entrance: what3words.com/port.museum.rips
 - South entrance: what3words.com/common.wiping.email
- There is no reception so the best place to meet is bit.ly/ByteCafe on the first floor
- See also cs.manchester.ac.uk/about/maps-and-travel/

5.5 Nearest car parks

If you are driving, the nearest car parks are:

- **University Car Park B** Manchester Aquatics Centre Car Park, NCP M13 9SS
- **University Car Park D** Booth Street West Car Park, M15 6AR, access via Higher Cambridge Street
- See estates.manchester.ac.uk/services/operationalservices/carparking