



WHY IT MATTERS... DESIGN



Loughborough University

Dr Steve Summerskill

Senior Lecturer

My research interests are in the world of automotive design and has had some real-world impact in the past few years. My biggest impact has been as a design consultant for Transport for London. This work involved investigating why there are a disproportionate number of accidents between lorries and pedestrians/cyclists in London.



My team and I worked on this problem and developed new ways of visualising what a driver can see from a lorry cab. Our analysis of 19 existing cab designs highlighted that some designs were unnecessarily making it difficult for drivers to see people close to the cab directly through the windows, requiring the use of six mirrors instead. This had the potential to lead to accidents and so we recommended a new standard that defines the minimum requirements for what a driver should be able to see. No such standard existed before. We then designed this standard using a 3D approach in CAD. The 'Direct Vision Standard' is now live in London making the capital safer.

The European Union took note of this work, and the European Parliament voted to implement a Direct Vision Standard in February of 2020. Since then we have been developing a new version of the standard for the United Nations Economic Commission for Europe. This new standard will be applied to all lorries made in Europe, and the European Parliament commissioned a study which estimated that this will save 550 lives per year in Europe.

This work required a range of skills that I developed in my degree, Masters Degree and PhD, which was all made possible by doing an A level in design!

Post 16 Education	Higher Education
A level: Design and Technology, Maths and Physics	BSc in Product Design and Technology
	MSc in Ergonomics and Human Factors
	PhD

Steve's advice: If I were to offer to some advice, I would say that your A level choices define the degrees that you can apply for in some cases. For example, my degree required Design and Maths or Physics. So, think carefully about your selections! You might be different from me, and have a very good idea of what you want to do at the age of 16 or 17, but if not, I would recommend at least one A level in a subject that you genuinely enjoy. It might end up being your career.





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Why did you choose Design?

The design degree combined the skills that I had gained in my A levels, and allowed me to be creative which I always enjoyed in during my A levels. The degree was challenging but very rewarding. During the degree, when working on design projects, I often wanted to further understand how users would interact with products, and how products can be refined to meet the needs of specific users. This led me to take a Masters degree in Ergonomics and Human Factors, which is a science that aims to improve how we interact with the things around us. This was very different to the Design degree, and I missed the creative element, but I was then very lucky to get a job in a design consultancy which required the combination of design and ergonomics skills.

Steve's experience as a student

Being an undergraduate student was an intense experience, and managing the work life balance, going out, having great times with friends and managing a demanding course was challenging. Looking back on it now, it was a fantastic time.

On one night out with friends I saw the bar staff at the Students Union having fun, working, and getting paid for it. I was rather shy when I arrived at Loughborough, (no one who knows me would believe that now!) but this was very much changed by working in the student's union bars. I worked two nights a week into the small hours, getting home at 6am on a Saturday, exhausted and merry from "staff drinks" which went on from 2am, after we had finished cleaning up. Working in the student's union was a great way to earn money, make friends and forget about studying for a few hours. I was moulded by the experience of doing my degree, and working in the SU bars, where I was quickly made a bar supervisor on a bar that took £20,000 a night. Counting all that took some time!

Steve's Career

After my Masters degree I got a job straight away, starting two weeks after I graduated. I worked in a small Design Consultancy for four years, working on a range of projects from the design of Cash Machines to design for disabled people. I was then asked to come back to the University by a Professor who I had got on well with and worked on a project with Honda.

This expanded into further projects and a PhD over the course of seven years, working with Jaguar Land Rover, Shanghai Automotive and other companies. I started getting some teaching experience, and loved the combination of interacting with students, and doing my research work. So, I then got the required experience and became a lecturer. Since then I have been promoted to Senior Lecturer and my work still combines active research and consultancy and teaching design students.