**Applied for:** Games Technology/Computing/Digital Media and Web Technologies

**Offers received:**

Bristol, University of the West of England – 120 points

University of Gloucestershire – 112 points and Unconditional

Computing and ICT are the main things I love doing. Year 7 really sparked my interest in computing, from when I was learning parts of Microsoft Small Basic, to learning Python in Year 10 and 11, to the present where I am more adept at Computing. I am using the skills I have learnt in Python for my coursework to create a game, which will simulate planets; the player has to try to make the planet suitable for human life and then keep it that way. I am documenting every step from market analysis and what individuals want from a game, through the design, building and testing, to the final evaluation of the product. These are important skills in all areas of computing.

ICT has developed skills through creating databases that allow the user to input data and check if the data entered is correct, with a simple UI. In Computing, however, it is more focused on SQL. I am using analytical skills to explain to start-up businesses about how social media can benefit them, part of which involved presenting my analysis of how other businesses use social media. I also have the skills to create a website using HTML & CSS as I was given a brief to create a website for a web development company, it had to contain certain types of pages with information about the company, pages needed to contain things like rollover images, GIFs, forms, etc.

My product brief and design in DT ties into Computing as CAD/CAM skills have been important for building 3D models in the design stage as well as laser cutting and 3D printing in the making of the product. Creating my own brief for the product and considering my client to make sure they are getting something tailored to their needs but marketable to a wider audience has given me insight into skills needed in the workplace. In order to complete the testing and  
reviewing of my design before evaluating the final product, I have had to manage my time so all deadlines are met, whilst giving myself time to go back and correct parts if need be. These skills will be useful in a computing course.

My interests in computing aren't just limited to the classroom. In 2017, I went to a CyberFirst Futures course, which was organised by GCHQ for a week in the school holidays. It was free to apply, but an online aptitude test had to be completed to a good enough standard to be offered a place on the course. The course had a combination of lectures and practical work. One of the programs I learnt how to use was WireShark, which we used over a closed network to practise our ethical hacking skills; it was fascinating to see all the data packets going through the network and surprisingly easy to obtain the documents we needed to search for. Gaining access to someone's computer user account on either a Windows or Mac operating system without knowing the user's password was also worryingly easier than expected!

I have also completed a week of work experience at Capita. One of my tasks was to create a program in C# (which they helped me learn). The program would be used as a proof of concept program for one of their clients. It had a GUI that allowed the user to input customer's data into search bars and output the customer that they had queried from a database of customers so the user could view, add, modify, and remove customer's data. When I completed the program, it finished all its tasks without any errors. I was pleased and they were pleased with what I had done so they sent it off to the client as a proof of concept.

I want to study computing at your university because I have more of an interest towards Computing and Web Development. Getting this degree, I feel, will help to expand my computing knowledge further, which is going to help me to achieve my goal of working in the IT field as a career.

Exemplar 2

I first started to become interested in the inner workings of computers at a very young age; I always excelled in coding introductory programs such as Scratch and I enjoyed the overall theme of solving problems using a computer. As I entered my GCSE years at school, I discovered a passion for wanting to improve on my computing skills and knowledge. For example, in my free time, I would set aside hours of my day to learn how to program specific functions in different programming languages (Python, JavaScript, HTML, CSS, SQL, LMC, C# and C++) and in different software (Unity, Idle, Pycharm, Unreal Engine, Access and GMS2) to see how they differ and compare. I would say that because of this passion, I have always had the mindset of someone who wants to improve and develop their skillset and I believe that university can help me to achieve my goal in furthering my knowledge of computer systems.

I am fascinated by the inner workings of video games; not just the design, but also the overall philosophy of video games and how they can make a person feel. It has always intrigued me how video games can leave such an emotional impact on people and how far they have come in the past 40 years or so. Because of this, I always enjoy using my coding skills to make video games I believe will make people think and appreciate how video games can be used to create something that no other form of entertainment can replicate. I believe that using the skills I obtain at university, I can make a difference in the world through the medium of video games and hopefully inspire the next generation of programmers to do the same. I was particularly pleased with a project on a physics engine. I had no template to work from and wanted every object within the game environment to react to gravity in a realistic way. After 2-3 months intensive work, I was able to reverse engineer a range of examples that I found online, and was proud that the final game worked as I intended.

I also have a hobby of creating digital music and have used DAWs (Digital Audio Work stations) such as FL Studio for over 5 years to create my own music and express myself creatively through that by mainly creating music to go with the video games that I create using programs such as Game Maker Studio 2 and Unity which I am currently learning at this time.

I have obtained many different skills to assist me in computing throughout my years at both GCSE and A-level computing and ICT such as database management and creation, website maintenance and creation (including simple drag and drop style and the more complex SQL counterparts), audio design and managing a social media account for a business which has already given me a wide scope of knowledge and are skills that I wish to develop and build upon by using the skills that I learn in university.

I also consider myself good at working with different types of people, as I have taught my younger brother, and some of my school friends, the basics of programming and how programming is such a useful tool to be able to allow a person to create anything they set their minds to if they are determined enough. Furthermore, I am eager to share my ideas with people and to help others to bring out their creative energy, creating an environment in which people feel encouraged to contribute to, and help solve problems.

In summary, my passion is computers, their applications and their effects on the human mind. I am eager to explore all areas of computing in order to develop my skills and knowledge further. This course will enable me to take the next steps to pursuing my dream of a career computing.

Exemplar 3

I am interested in courses involving Computer Science, this is due to my deep interests in the ever-evolving aspects and topics within the subject, such a Cyber Security and Artificial Intelligence. The ability to change the world in any other way simply seems unmatched, whether it be protecting businesses from malicious people or organizations or creating the world’s first super artificial intelligence, capable of unimaginable quantities of extremely complex calculations. I have a deep passion for dissecting the procedures and functions behind each field, such as the steps an Alexa might take every second in order to give the correct response, or the methodical steps involved in cyber analysis and the prevention of attacks along with the development process involved behind every project.

Computer Science is deeply interesting to me, since everything fits in a linear, logical fashion; everything happens for a reason. Much like maths, there can always be a logical way of doing things when developing code; if it doesn’t work, it is simply put together incorrectly. Many computers in the world are connected to each other either with a cable or invisible 1s and 0s transmitted wirelessly. To be able to understand exactly what they're saying to each other and why, has been an interest of mine since I first used my family computer. An artificial intelligence as smart as humans will only exist for maybe minutes before it becomes a super intelligence and surpasses mankind forever, and to have the opportunity to research this field and possibly alter history, I find a privilege.

I see myself as a perfectionist. This is a useful skill regarding software development and research considering there will always be a way to improve, giving me the motivation and creativity to find improvement. I spend a lot of my free time practicing coding and gaining a basic understanding in select languages such as SQL, C++, HTML, and most of my development projects through Python. In my free time, such as when playing video games, I still find myself asking "What went wrong?" when something interrupts the immersion.

Studying Computer Science has increased my understanding of how computers work and the physical architecture of the device. My machine code project has built on my knowledge of Python. I was particularly proud of a sorting algorithm for scores within my game to be stored externally, allowing the scores to be accessed indefinitely. I enjoyed the challenge of how to detect collisions between sprites and using Newton’s Third Law to allow the player to jump realistically. ICT has helped me learn how particular software works and the creative process involved with its development. Mathematics allows me to understand the logical process involved and processes needed to solve more complex queries. My EPQ considering the hurdles humanity has to face to prepare for the development of AI, has improved my research skills and enabled me to consider a range of possible scenarios. Both this and my coding project in Computer Science are similar to the reports I would be bringing together at university and ICT projects have reinforced this. I am able to work independently to deadlines and have developed my presentation skills; all transferrable to studying at university.

Outside my studies, I find a deep interest in software able to commit cyber-attacks such as Kali Linux and how today’s software, especially licensed software such as AVG and Norton Anti-virus, react to such attacks. Along with attempting to create my own malicious software in Python, to help me understand how it behaves and infiltrates a system, I have also experimented with basic machine learning algorithms in Python for games that I have created. I have also undertaken, with others and independently, the development of programs to complete particular tasks such as sorting algorithms to games involving gravity and file organizational mechanics.

Exemplar 4

I want to study at university because I want to further my knowledge of computers and pursue a career in ICT. I developed an interest in video games at an early age and I grew curious as to how they were made and how they worked differently on PC’s and consoles. I am also fascinated by cyber forensics, having studied a FutureLearn course on ethical hacking, and can see myself working within the police or other government agencies in this area. Although I have studied ICT, I feel computing science will enable me to develop my programming knowledge further. Studying the subject at degree-level, at university, will help solidify which branch of IT I want work in as a career path.

Studying ICT at both GCSE and A-Level has reinforced my desire to make a career out of my interests in this area. I love the problem solving aspect of the subject. If there’s a problem somewhere I enjoy trying to find the cause of it, especially in things like databases. I like the logical thinking and going back to retrace my steps to find possible errors in the queries or tables. It is so satisfying when everything comes together. I enjoyed studying operating systems where I gained a better understanding of the different types of Internet connections and encryption. In the operating systems topic, I also learnt about the different types of interfaces such as command line interface and graphical user interface. I am currently working on my coursework in website development where I am developing my understanding of both Dreamweaver and html. These will be transferrable to the degree course. I was intrigued by the ethical discussion from my FutureLearn course. I wasn’t completely aware of the laws and the ethical issues around hacking before taking this course but now have a basic understanding of why people do ethical hacking.

Film studies has helped with my IT skills; I loved watching films and I wanted to learn more about the way they are edited. Part of the course is filming and editing my own short film. I had to do a lot of video editing on Premiere Pro and I am developing my proficiency with the software.

The topic of sociology that interested me the most was the crime and deviance topic because I was interested in why people commit crimes and what kind of factors influence people’s reasons to commit crime. Sociology has developed my written communication skills due to the amount of evaluative essays required.

At home, I’m the first person my family come to about any IT issues. I have quite a lot of general knowledge about day-to-day issues with the functioning of computers because of my interest in video games. I can normally problem-solve the most common issues and will research any new ones I encounter. I regularly watch YouTube videos about troubleshooting issues and video games.

Outside school, I swam competitively for 13 years which involved regular training sessions that I had to fit round my studies. I needed to have strong team-working and communication skills as well as acting on feedback to continually improve my technique. As I got older, I started to work for my swimming team and coached younger children who were learning to swim. This required patience and encouragement alongside the ability to explain things simply and in different ways to each child. I often had to cover for my peers at short notice, showing my adaptability.

By going to university I can continue to develop my social skills and to build my confidence. I am hardworking, punctual and reliable and know this course will be a good fit to me; I will gain greater programming knowledge as well as the skills to use new software to prepare me for a career within the computing and cyber forensics industry.