**Applied for:** Computer Games Design/Technology and Development

**Offers:**

Bristol, University of West of England – 120 points

Cardiff Metropolitan University – 96 points

University of Greenwich – 112 points

I would like to study Games Design and Development, because I believe video games are a brilliant medium to tell a story and captivate an audience. Films, stage plays, and books are all fantastic and from time to time I have written stories in these formats, but they have their share of limitations. Games offer an interactive user experience like no other, offering challenges such as puzzles. I personally love strategy games and I'm currently working on developing my own collectible card game for PC.

Using the Unity3D engine and Windows Visual Studio I've begun building my game in C#. One of the reasons I want to take this course is to sharpen my coding skills and improve my fluency with relevant software - but also have the chance to use other industry-grade software.

At school, I'm studying German, Psychology and Computing Science. This range of subjects reflects how varied my interests are. Even my GCSE options were extremely mixed considering I took Art Graphics, German and Separate Sciences. I've always tended towards choosing a wider range of options, rather than actively pursuing one of them. It's for this reason that I'd prefer to study both Games Design and Development, so that I can learn programming, while also applying my creative design skills.

I'm incredibly passionate about music. I play the piano and spend a great deal of time performing and composing songs in various styles and genres. I typically spend a lot of time writing music for a purpose, whether it be the stage/screenplays I've worked on, or my on-going card game project.

Communication skills are something I consider very important. I'm intrigued by the ways in which we communicate with one another and I think it's probably the biggest reason I decided to study German. I'm absolutely fascinated with languages. At the start of Year 12, I decided I would go for an Extended Project Qualification (EPQ) as an enrichment opportunity. My topic was constructed languages - and so I created my own language as an example. We had to give presentations about our chosen topics and a big focus of mine was to discuss the advantages of learning languages and the challenges that I'd faced from designing my own. I put in a huge amount of effort into every aspect of the project and I received an 'A' grade overall.

I've demonstrated much passion and dedication in many extra-curricular activities. In the summer of 2017, I took an opportunity to enrol in a cyber-security course designed and funded by GCHQ. It was an intensive week which gave me a massive head start in A-level Computing Science. I was also part of a team that placed third in GCHQ's Young Entrepreneurs' Challenge, where we had to design either hardware or software (in our case, both) that would help improve the quality of the workplace of a busy office worker. Another example in sixth form is my involvement with the council. I help students of all ages find their voice and help communicate between the council and the Senior Leadership Team. I'm also Deputy Head Boy and, as a team, we often have to plan and organise events.

One quality that I pride myself heavily on is my inquisitive temperament. I am adventurous and always up for a challenge. A fantastic opportunity I had last year that strengthened this quality was National Citizen Service (NCS). This was a four-week long residential trip and social action project that really helped to build my confidence. I met some amazing, inspiring people and we ultimately made a huge difference through our charity work, raising money for our local park and a centre to help adults with physical and mental disabilities.

Overall, I'd say that I am an ambitious and creatively-oriented individual with plenty of ideas to offer an ever-growing industry. I want to start this course because I feel it captures many of my interests simultaneously, and will prepare me for any of the diverse range of careers I could begin.

Computer Science Statement 2

I have always been interested in a career in software development and was a keen member of the school coding club from Y7. I am proud to have developed, and am now refining, my own personal assistant that acts on voice recognition. This was designed and created through research and the skills I have developed from other coding projects. This required a lot of research beyond A-level, but I thoroughly enjoyed the challenge. Software is becoming increasing more complex to meet mankind's strive to become more advanced and make day-to-day life simpler. I am confident I have the skill set to thrive at university studying software development. During my gap year, on top of travelling and developing my independence, I plan to develop higher skills in coding such as learning more languages and understanding more complex algorithms.
Observing and working alongside a team of software developers during work experience placement has given me a wider understanding of the different areas of software. From working in a network hosting company, to having conversations with people in the cyber security industry, I am developing a wide understanding in the different specialities. I would love to develop my understanding to the highest level of developing a program, starting with the design and problem solving, all the way to creating the final piece of code.
Computing studies has developed my understanding of how computers work, from understanding basic requests from tiny components, to how a network can link hundreds of machines together. Also, computing has allowed to me to gain the help I need to become a better programmer, with my skills being tested in the time pressured computing project where I made my own version of Monopoly. Initially, I was using co-ordinates to move pieces around the board and detect what space the piece was on, but quickly realised this wasn't a logical approach to the problem. I changed it up to a list and class method where the information for each space was inputted into the class which has made adding additional algorithms simpler. Despite the coronavirus pandemic, and lockdown, I have managed to complete the project through perseverance, dedication and hard work, proving that with self-confidence, I can achieve anything I put my mind to.
Maths has tested my ability to learn and remember complex calculations and problem-solving skills. Looking at calculus and trigonometry has evolved my understanding of algorithms and equations due to the detailed and complex steps to achieve the final answer. Since the challenging cross over between GCSE and A level, I have managed to turn around my grades through hard work and dedication.
Studying chemistry, I have been given the opportunity to push myself and develop my understanding of the subject and its applications. Through the application of the laws of chemistry in unknown situations, I have managed to develop my problem-solving skills to fully understand the problem and use my prior knowledge and experience to come up with a solution.
Participating in Gold DofE, I have learned essential life skills, as well as the ability to survive out in the wild for 4 days with no support. The ability to work successfully in a team is the most important skill you can learn in DofE as you need to be able to react to unknown situations and react calmly as a team. During our practice walk, one teammate hyperextended her knee at the top of a mountain. Despite this, we were able to successfully get down the mountain and back into camp in time. DofE has taught me several lessons about myself such as improved independence, and valuable skills such as teamwork. To relax and release stress, I enjoy drumming and playing video games. I play football for a local club which helps me keep fit, as computing can be a sedentary lifestyle.
I am looking forward to starting university after my gap year and see it as a way to develop the necessary skills to enter a career in software engineering.

Computer Science Statement 3

I am looking to pursue a career in the computing industry. In order to understand (or potentially even develop) the technology of tomorrow, one must understand the technology of today; this is one of the key reasons I want to study a degree in computing. I could then specialise with a master's degree, such as cyber security or web development, or I could go straight into a job in the industry; all career options that appeal to me.
Spending every Wednesday lunchtime in Year 7 at coding club, learning the ins and outs of Microsoft's Small Basic, served as a strong base for my love of programming, and I now enjoy writing programs, designing simple games, and learning new coding languages. I frequently challenge myself to programming small (but complex) programs in several languages, with the most recent being C#. One of my favourite activities is solving problems, and difficult computer programs are just another program to solve.
Seeing computer technology at secondary school changed my interest from building robots to being more focused on becoming a software engineer. At GCSE, the feeling of learning about something that I had been so deeply interested in for such a long time, coupled with the non-exam assessment and the programming experience it entailed, meant computing rivalled no other subject. Additionally, my experience with physics and chemistry may be helpful in learning more about how physical computer components function, such as what materials they are made from, how they carry signals, and how they connect with other components.
At A-level, understanding how computers work, what they are made up of, and how to operate them, as well as the technical skills such as coding, should be a solid basis for the more advanced topics in the degree. Additionally, mathematics has taught me such skills such as problem solving, as well as topics that are required to program well, such as algorithms. My knowledge of electrical circuits, components, and the types of materials they are made of from physics will greatly benefit my further learning.
Many years of experience with PCs, laptops, smartphones, and other various technology devices means I can usually figure out how to work something; if I cannot I only become more interested in figuring out how the device works. I pride myself in being a particularly fast learner, learning from my mistakes quickly and recovering from them as soon as possible. The trial and error of learning something, getting it wrong, relearning it and trying again is one of the most important aspects of education.
I have taken on responsibility as a Prefect in Year 11 and a Senior Prefect in sixth form. Regularly representing the student voice as Council Rep, developed my confidence and communication skills resulting in my applying for and gaining, the position as Head of Whole School Council on the Student Leadership Team. Leading monthly meetings of the whole school council, I have been able to utilise my technology skills by successfully organising remote meetings during COVID-19. The position involves communication with a wide range of students as well as being able to feedback to senior staff to discuss ways forward for the whole school. Additionally, I have shown my good time management by holding down a part time job. I have also had to show my adaptability to achieve the Gold DofE Award, changing my volunteering from initially teaching coding to students in the younger years to mentoring students within my bubble and, as a result, I have been employed by the school to support GCSE resit maths students within my bubble.
Work experience with a local IT support company was invaluable to me. Being given the independence to just get on with a job and the expectation that I would just complete it was a positive feeling. The daily experience of industry life and made me want to pursue a career in computing even more.

Computer Science 4

The future holds endless possibilities in computing and I want to be a part of it; what I love most about studying computing is programming and building up my knowledge and skills when challenging myself to difficult tasks. Studying it at university will allow me to further grow and develop an in depth understanding from the fundamentals of computing to the design of safety-critical systems. I am inspired by the problems that have already been solved such as IBM's call for code (Promoteo, Sparrow and Rove) and robotics such as Spot Mini (Boston Dynamics) and AI such as Google's Deep Mind.
Outside studying, I enjoy further researching programming concepts and reading books on programming languages (Python, C++, Java). These books include Think Python, Programming Python, Get Coding (HTML and JavaScript basics) as well as reading some of Learn Python, Web Scraping with Python and Fluent Python. I have used this knowledge to develop new projects with Python such as web scraping Amazon for prices, building a basic website using Django, using object orientated programming with Pygame, creating a GUI calculator, a music app with a basic login with the Tkinter Python library and building databases using dictionaries and learning how to manipulate them. These books have taught me how to make my code more efficient by using more complex functions and writing code in a more pythonic way. The Codewars website with increasing difficulty of programming challenges is not only fun but has also helped build my knowledge base and skill level in Python. All these examples need determination and resilience and, as a result, I am now familiar with more advanced programming concepts beyond A Level.
Robotics is something I love to do; I am confident using Arduino and have dabbled with Raspberry Pi. I have made basic car robots and a small servo robotic arm as well as having designed and 3D printed a 5DOF robotic arm using stepper motors. This has been by far my largest project and the most challenging, I have learnt so much along the way and have built the mind set to never give in. Machine learning and AI fascinates me with the opportunities they hold for the future from quadcopter drones manipulating balls using algorithms and computer vision to exponentially learning AI and animal like robotics doing mundane tasks. I hope to learn more about this at University.
Currently, I freelance online where I have programmed some basic web scrapers and have solved many basic logic problems with Python for employers. I have also programmed a scanner in Java to display the information in a GUI window. It scans a text file for a certain bytecode and then outputs the result. Working with clients has built my communication skills and has emphasised the importance of advance preparation to meet deadlines.
My A-levels have given more opportunities to push myself academically and have installed a strong work ethic in me. Physics has helped build my approach to problem solving, such as breaking a problem down into its simplest form and working back up from its fundamental principles. Computing has taught me programming languages and the fundamental concepts of programming and has grown my passion and interest for computing. Mathematics has built my skills of quantitative reasoning and has constructed skills to build logical arguments and expose illogical arguments. My subjects have also built my studying and my reasoning skills.
I don't just spend time in front of a screen but scuba dive regularly helping build confidence in problem solving under pressure, whilst planning dives has shown the importance of preparation before undertaking a dive. I also play snooker building analytical thinking, mental agility and clarity.
I am passionate about computing and coding and want to take this into my future, from growing the industry and improving technology to eventually building advanced systems and intelligent robotics for security of the real world.

Ethical Hacking and Cybersecurity

To make the decision about which course I wanted to take at University was reasonably easy; it's the area I find most enjoyable and interesting, computer science and specifically cyber security. Following visits to Universities and reviewing course literature, I was able to confirm the specific course most suited to my interests. The area of cyber security is fast moving and progressing all the time with security at the forefront of people's minds.
One of my fondest memories of computer science was when my dad introduced me to a brain challenge that has now been released on the GCHQ website. I became obsessed with puzzles and problem solving. I adored the idea of bringing together pieces of information with hard work to finally find the answer.
This love for problem solving sparked the flame and led me to coding. I started on 'Scratch' and loved how fun and easy it was to block commands together to make the sprite do what I wanted. This introduced me to computing languages such as: Python, HTML and JavaScript. I specifically remember a programming task using Python where we had 20 hours to complete a task with multiple requirements; it needed to have, amongst other things, authentication, no errors with invalid input and several tasks within tasks. I got great satisfaction from coding complex algorithms and completing the many trials and refinements to reach the end product.
My first week on a Cyberfirst course, confirmed my growing interest in this area and led to A Level Computer Science. Sixth form has enabled me to focus on developing my skills outside of lessons and I have expanded my knowledge and challenged myself further by attending two more Cyberfirst courses and undertaken work experience in a local company offering IT solutions and support for local school and businesses.
The Cyberfirst residential course at Cardiff University before sixth form was a fascinating experience; I thoroughly enjoyed the lectures and found that taking notes came easily and I was motivated to follow up what I had found out afterwards. The idea that I could study this full time with lots of other students who had the same interests really excited me. This summer's advanced residential at the University of Gloucestershire enabled me to look at areas in much more depth such as understanding and using the Enigma machine. Another aspect I enjoyed was learning about was how Tor networks work. It is because of my experience in these courses I believe I am suited to a course in cyber security.
My work experience placement at Focus Networks, gave me my first insight into working within a computer environment. I carried out various tasks such as taking apart and experimenting with different hardware pieces of a computer. I also enjoyed all the trips out of the working building where I went to local schools and learnt about how the employees fixed networking problems.
Determination, perseverance and the ability to work with many different people to achieve the goal set out was needed to be successful at both Bronze and Gold D of E Awards. Fundraising for an African Primary School by carrying out a sponsored 20K walk and coordinating several football tournaments within school, required excellent communication and motivational skills. I particularly enjoyed the hiking and camping over rough terrain in the Black Mountains, testing my determination and teamwork skills especially when we woke up to a snowstorm and had to set out from the warm campfire for a 15K hike. I needed to take the lead to encourage everyone not to give up; my problem solving skills came in useful when map reading and visualising the best route forward. The feeling when we arrived at the end was an experience that carried me through all of the later expeditions.
In summary, my life and interests all revolve around computing and I am excited at the prospect of studying cyber security at University, in order to take the next steps in my future career.