Why do you want to study this course or subject?

The combination of the holistic approach of Economics with the precise detail of Mathematics is exciting and would give me the skills to excel in the field that I am interested in: the financial sector. I was reading a BBC article about issues Scotland had with the public expenditure they received, which initiated my interest for understanding a broader range of economics. This brought my attention to the Barnett formula, which uses the accurate nature of Mathematics in Economic methodology and is a model used by the Treasury in the UK to distribute the amount of public spending that is allocated to Northern Ireland, Scotland and Wales. A full understanding of Economics will allow me to engage with the current affairs and explain why certain economic phenomena occur by relating it to the economic performance of a country.

How have your qualifications and studies helped you to prepare for this course or subject?

A-level Further Mathematics has helped me develop skills such as critical thinking and creativity through attempting complex questions which often need considerate methodology. I have always tried to push myself when it comes to Maths and this has been shown through my participation in the UK Maths Challenge, attaining a gold certificate and the "Best in the Year" award. Studying Further Maths has introduced me to matrices and vectors, so having the opportunity to simultaneously manipulate the two when studying Linear Algebra at University would be quite captivating. I am intrigued by the way statistics at A-level can be used as a means of drawing conclusions from data and I would like to be able to extend these ideas and have the opportunity to analyse experiments and collate information that can genuinely be useful to society.

What else have you done to prepare outside of education, and why are these experiences useful?

In order to gain a stronger understanding of macroeconomics beyond my studies, I applied for an extremely competitive week-long summer work experience programme with Lloyds Banking Group in 2017, providing me with a greater insight to their Group Corporate Treasury (GCT) sector - arguably the bank's most important team known for being the “bank to the bank”. I learnt that GCT manage the flow of cash between the deposits that divisions bring in, and the loans they lend out through four main functions: balance sheet management, funding and liquidity, capital and issuance. The most valuable skills I gained from the programme was through the trading game that I played. I had 6 assets and used the stock market to judge how much of my assets I should buy or sell and when would be the best time to make the trades. This gave me an idea of the level of risk-taking that is involved, not just in trading but also with how banks operate. Presenting to employees on what I had learned about the FTSE 100 was

also a vital experience as it allowed me to work on relevant skills in relation to my aim of wanting to apply economic theory to real world scenarios. I was required to identify drivers of the index, both economic and fundamental, and answer technical Q&A raised by the audience. I have developed a range of transferable skills through non-academic activities; by playing tennis outside of school at a county level, representing my age as well as the men's team and winning many club tournament competitions. My passion for tennis extends beyond playing, as I coach younger children aged 4-9 to develop their playing skills. I have captained my school cricket team on several occasions as well as doing my Higher Sports Leaders Award (Level 3), where I worked with younger students by getting them involved in a variety of sports. My communication skills have been further enhanced during my National Citizen Service (NCS) programme as I volunteered with the elderly at the Royal Chelsea Hospital, providing them with entertainment. This has enabled me to gain confidence in my communication skills through adapting them in different situations depending on my audience, which I believe is an important skill to have, not only at university but also in the world of work.

Why do you want to study this course or subject?

Mathematics at times can be the most frustrating subject, the best feeling in maths for me is when I get the right answer to a very problematic question. Every mathematical problem is like a puzzle, at times it can be hard work but all you need is the right jigsaw pieces to fit the puzzle. In the words of Stefan Banach, it has made me realise that 'Mathematics is the most beautiful and most powerful creation of the human spirit.' This caught my attention because mathematics shows a solution to every problem for example, in my A level further mathematic studies I came across to a topic called 'Proof by induction' which has been the most alluring thing in my mathematic studies so far. Proof by induction is a challenging topic but the beauty about it has intrigued my love for mathematics even more. I have enjoyed all my modules for mathematics. My favourite area is Pure Mathematics because it focuses on thought processes and problem solving. Differentiation and integration is my favourite part of Pure Mathematics. Studying mathematics continues to be extraordinarily enjoying and the difficult task of trying to solve questions presented in a strange way is very pleasing. I believe that university education will not only expand my knowledge in mathematics but let me experience a lot of new things and meet people who have various interests.

How have your qualifications and studies helped you to prepare for this course or subject?

A level Chemistry is helping me strengthen my knowledge in mathematics because there are a lot of calculations you have to do for example: chemical equations, calculating molarity and speed of atoms. Studying Chemistry demands that I grip onto concepts and the application of mathematics helps me gain general solutions to problems. I have enjoyed studying my AS modules for Further Mathematics and it has given me a huge understanding which I will take forward to A2. For Further Mathematics I had to teach myself decision 1 in the few months leading up to the June examination and now during the summer holidays I am self-teaching Core 3. I enjoy working independently and pushing myself to achieve. I particularly enjoy trigonometry especially questions where you have to prove the left or right-hand side of the equation, it's almost like problem solving and trying new ways of approaching the question as there are more solutions.

What else have you done to prepare outside of education, and why are these experiences useful?

I love working with young people because I take the opportunity of inspiring them to take interest in something that will be beneficial for them. Whilst on my work experience at Yew Tree Primary School I was a teaching assistant helping children out with their subjects, in particular

mathematics. Throughout my work experience I gained confidence talking to others, problem solving for example tackling questions that students wanted help on and the teachers. I took part in the National Citizen Service challenge. At the start of the challenge I set goals which were to build more confidence and communication. My NCS experience has been amazing and I think by participating it has made me better as a person also improve skills such as communication. In the first week I was a team leader where I had to provide information to the team and the plan for the day. For the second week I worked in a centre where there was people with mental disorders. I planned a session for the people at the centre which had to be sport-related. We had a pitch day where my team presented our social action project to a panel of Dragons. I was part of the finance team where I had to use my mathematical skills and problem-solving skills for the social action project. The social action project was to raise awareness about visual impairment, by doing this it made me a better public speaker. Sports has always animated my competitive nature and I've always wanted to strive to become better, be it mentally or physically. I enjoy playing for my local cricket club where in my first season I won an award for all round performance. I like to acknowledge the game of cricket, be it on-field or off-field.