CUHS PS Example
Engineering 2026

Q1. Why do you want to study this course or subject?
This is your opportunity to showcase your passion and knowledge of your chosen subject area and to demonstrate to universities and colleges why they are a good fit for you and your future ambitions.

The egg plummeted, spinning as its landing legs flailed through the air. Steadied by the paper parachute, it slowed just enough for a safe landing.
As a Year 4 student in my school's STEM club, I once had the task of protecting an egg from a 3-storey fall using recycled materials. I attached it to a paper parachute with strings and plastic straw legs, and to my amazement, the egg remained intact. This simple moment sparked a passionate interest in me to find feasible solutions to real-world problems, which has since grown into a desire to study Engineering. Ever since, I have striven to understand how machines work, and I continue to enjoy fixing them, such as when I used CAD to design a replacement mounting bracket for my blinds, which is still in use today.
My love for mathematics and logic-based problems, together with my powerful competitive spirit, led me to enter competitions as far back as primary school. I reached the national finals of the Mozaik National Mathematics competition all six times I entered, placing second nationally in 2022. Later, engineering modules at Milestone Institute, such as 3D Printing and Celestial Mechanics, along with independent projects, deepened my desire to study such a mathematics-intensive subject at university.

Q2. How have your qualifications and studies helped you to prepare for this course or subject?
This is your chance to shout about the relevant or transferable skills you've gained from your education and highlight your understanding of how they will help you succeed in this subject area.

Studying Further Mathematics and Physics at A-level has shown me how seemingly abstract concepts can emerge as natural continuations of familiar topics, such as how complex numbers arise by defining operations on ordered pairs of real numbers. Studying Economics has strengthened my ability to interpret data and comment on real-world problems analytically.
After winning both the school and county rounds of the Zrínyi Ilona National Mathematics Competition, I placed 8th at the 2025 national final in March, as the only international school student among 45 finalists. As this was my first time competing in a Hungarian competition of this calibre, I quickly adapted to a new academic environment, learning subject-specific terminology in Hungarian and adjusting to unfamiliar problem styles.
I achieved Gold in the UKMT Intermediate Mathematical Challenge twice and the Senior Mathematical Challenge once. In 2023, I was invited to the Maclaurin Mathematical Olympiad, where I received a Certificate of Distinction. In late 2024, I met the British Mathematical Olympiad invitation standard, earning a Certificate of Merit in Round 1 with a score above the mean. Preparing for these competitions greatly strengthened my mathematical rigour, formal reasoning, and performance under time pressure.
In 2022, I joined Milestone Institute, a talent development programme, where I completed 13 advanced courses in engineering, physics, and mathematics, consistently attaining the highest grades. Of particular relevance were Mechanics, Quanta and Relativity, and Spaghetti Bridges, where I studied the physics of load-bearing structures and applied them in a bridge-building competition, which my team won. In the Robotics Lab course, I worked

with industrial automation robots, designing components such as a servo-powered gripper and a piston-driven feeder, and learned basic PLC programming. These courses confirmed my commitment to engineering and deepened my technical understanding.

Q3. What else have you done to prepare outside of education, and why are these experiences useful?

This is your chance to reflect on any other activities you have undertaken outside of your education, or personal experiences which further demonstrate your suitability for the course. This section is likely to be deeply personal to you, so anything you include should be meaningful and relevant to you.

After receiving a 3D printer as a gift, I embarked on a substantial independent project by designing and building a robotic arm with three degrees of freedom, capable of picking and placing objects. To improve my skills in iterative design using CAD software, I designed my own interlocking geometries to replace screws and adhesives, and centred the design around the servo motors which acted as joints. Following positive reviews by both peers and instructors, I was selected to exhibit at Milestone Institute's sophomore conference.

Playing water polo competitively for 8 years has strengthened my discipline and focus under pressure, while captaining my team during the past year has developed my leadership and team coordination skills.