

# Ben Birtwistle

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## Personal statement

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I am an enthusiastic, budding engineer studying Aeronautical Engineering at Glasgow University. A passionate motorsport fan, who dreams of reaching Formula 1 as an Engineer. At secondary school I was responsible for my school entering F1 in Schools for the first time 2017 and reaching the finals on the two occasions we entered. My role as design engineer resulted in us having designed and manufactured the fastest car in Scotland on both occasions. I am also fascinated by aviation and aircraft design and am a keen traveller. Having attended two RAF training camps through my Arkwright Engineering Scholarship, and work experience at BAE Systems, this passion continues to grow.

## Education

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### Monifieth High School

*(August 2014 – March 2020)*

Advanced Higher:

- Maths - B
- Physics - B

Higher:

- Maths - A
- Physics - A
- Graphic Communication - A
- Engineering Science - A
- Business Management - A
- English – B

National 5:

- English – A
- Maths – A
- Engineering Science – A
- Graphic Communication – A
- Chemistry – A
- Physics – A

## Achievements

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### Arkwright Scholar

I was honoured to have received an Arkwright Scholarship with Barcapel Trust in 2018. As part of the selection process I wrote an application, took an aptitude exam and designed and built my own electric skateboard. I really enjoyed researching, designing, and building the board before presenting it at the Arkwright Presentation Day at Herriot Watt University.

### Gold, Silver and Bronze Duke of Edinburgh Award

I have recently completed my Gold Duke of Edinburgh Award following my expedition in the Lake District, residential training course with the RAF and years volunteering at my local youth group. I also received my Silver award in 2018 and my Bronze award in 2017.

### Monifieth High School Captain

I was appointed Monifieth High School Captain in May of 2019. This role involved managing the school prefects, organising school events, speaking at school events and assemblies and providing a responsible link between the school pupils and staff. This is the highest role of responsibility a pupil in Monifieth High School can receive, and it is a role I was very proud to undertake.

### LTA Level 1 Tennis Coaching Qualification

In November of 2018 I received my LTA level 1 tennis coaching qualification. I have also completed my "First Aid in the Workplace" training and assessment and have my PVG for working with both children and vulnerable adults.

### Monifieth Befriending

I am involved in the Monifieth Befriending scheme, which involves visiting an elderly and lonely member of the community. I find this a very rewarding way to spend some of my free time and will continue to phone Margo regularly from Glasgow and visit her when I return home.

### **Saltire Competition – Scottish Champions**

In 2016 I lead a team from Monifieth High School in the Saltire Competition. We competed against schools from all over Scotland to build an electromagnetic energy wave generator which used the power of waves to generate electricity. Having tested our device at Edinburgh University's wave pool we successfully generated electricity and were awarded first place in Scotland.

### **F1 in Schools Championship – Scottish Champions**

In 2017 my team moved on to the F1 in Schools Championship. The competition involved designing and building a model racing car to be raced on 25m drag track. As well as this there was a lot of emphasis on the presentation you had to give, sponsors you had to attract and folios you had to compile. On the two occasions I've been part of the project, I have been in charge of car design and manufacturing. In 2017 my team won the Scottish Regional finals before progressing to be the fastest team at the UK finals at Silverstone. In 2018 we finished runner up in the Scottish Finals before progressing to have the fastest car in Scotland at the UK finals. As part of this team I also secured all of our sponsors including our £1500 title sponsorship deal with Bowman which lead to the rebranding of the team as Bowman Eagles Racing.

### **Young Engineering Team of the Year 2017**

My team were awarded the Scottish Young Engineering Team of the Year 2017. We also received the Tayside Young Engineering Team of the Year 2017 following presentations in Glasgow and Dundee Science Centre. This award was in recognition of our achievements in the F1 in Schools Championships and Saltire Competition.

## **Work Experience**

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### **Tesco - March to September 2020**

Following the COVID-19 national lockdown, I wanted to do as much as I could to help the community overcome this. I secured a job with Tesco providing customer service on the front doors monitoring the number of customers in the store and enforcing the social distancing rules. When this job was no longer required, I was offered a job in the grocery department where I stacked shelves 4 days per week. I had to leave the job in September to move to Glasgow for University.

### **COVID-19 PPE**

I also helped produce PPE for care homes and the NHS. I began working with a team of teachers at my school, using the laser cutter to produce over 5000 face shields for local care homes and hospitals. I also used my own 3D printer, purchased using my Arkwright Scholarship money, to produce mask tensioners to improve the comfort of surgical masks worn in hospitals. I had the masks approved at Ninewells hospital and then produced over 1500 for every member of staff who had to wear a mask.

### **Tennis Coaching**

I am a regular tennis player, and for the past 5 years I have been involved in coaching at my local club. I train several times per week and have coached children aged between 4 and 14, up to 5 hours per week as an LTA Level 1 coach 2015 and 2020. I also coached tennis on behalf of the LTA at Dundee City Council tennis courts throughout 2019.

### **BAE Systems**

In January 2020 I attended a week of work experience at BAE Systems in Samlesbury, as an aspiring aeronautical engineer this was an incredible opportunity. I gained a real insight into different jobs within the company, in particular their Aerospace department, and learned a lot about their Typhoon and TEMPEST development cycles. In addition, I also learned about other aerospace projects such as their High Altitude Solar Aircraft PHASA-35. I made many contacts and this is certainly somewhere I would like to return to for an extended summer internship.

### Higher Tutoring

In the 2019/20 academic year I worked as tutor for Higher Maths, Physics and Engineering Science. I went to a 5<sup>th</sup> year students house for 2 hours per week to tutor all three subjects at Higher level. And I volunteered to tutor Higher Physics for 1 hour per week at my school to another 5<sup>th</sup> year pupil.

### References

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