



**Berkeley
Green
UTC**

**WEEKLY NEWSLETTER
31-MAR-23**

Headteacher's Update

This week we are celebrating some more success for our engineering and digital students. Last year we entered the First Tech robotics challenge and came in the top three teams internationally. This year our team, sponsored by Raytheon have been competing in the regional rounds of the competition. We are very proud of the work they are putting in and delighted that they have now qualified for the national finals. More details have been included later in this newsletter.

We have welcomed Lockheed Martin in to visit us today and run our latest employer project. This is a great opportunity for our students to put the elements of their classroom-based learning into practice. Further details of this project have been included in this newsletter.

The next half term will see the beginning of exam season, and students across years 11, 12 and 13 will be sitting exams. Please encourage your young person to mix a good level of revision with down time; it is important for students to keep a healthy mind over the next few months.

I wish you all a peaceful Easter break.

Gareth



Student Celebrations

This term has been an excellent term for attendance. Many of the Tutor groups have had their highest attended term.

The competition for this term's trophy really hotted up with 5 tutor groups separated by only 0.5%. In 3rd place were 12 Mira with 94.5%, 2nd with 94.6% was 11 Intel and top of the attendance tree this term was 10 Lockheed Martin with 94.7% well done to all. As it was the end of term, we had 2 Choco Lotto draws; one for 100% in the previous week and one for 100% this year. In the weekly draw we have 237 students enter and the lucky winners were Thomas Ratcliffe, James Baulch, Lukasz Kostrzewa and Saul Leveridge. The draw for students with 100% attendance this year had 24 students and the winner of that draw was Ben Edwards.

As ever our students take great pride in displaying our values and this was apparent in key stage 4 this term. It was a very close-run competition with the top 2 tutor groups only separated by 14 points! In the end 10 Waterman Aspen came out on top with 275 points, 11 Intel were second with 261.

As always here are the students who have been leading the way in each tutor group:

10 Lockheed Martin: Hollie Rendall	11 Intel: Danny Gibbons
10 MOOG: Ruby Pawlyszyn-Thompson	11 Sempre: Georgia Etheridge
10 Renishaw: Joel Gibbons	11 Versarien: Coral Lewis
10 Waterman Aspen: Dawson Smith	
12 Atkins: Dante Milligan	13 CGI: Chloe Ealey
12 Mira: Ethan Sweet	13 CSA: Kai Warlock
12 Rolls Royce: Riley Barnes	13 Versarien: Dan Wilson

F1 in Schools – written by Libby Edsall in year 12

It is now a little over a month until our regional competition, on the 10th May, and we have made great progress over the last few months. We have designed a race car that is ready to be manufactured on the CNC once we're back after the holidays, and there is a lot of paperwork that has been completed ready for judgement. We're not sitting comfortably just yet, but we are feeling confident that everything we need to do well will be completed over the next few weeks. If you are interested in our progress so far, we post updates on our Instagram @bgmotorsportuk, so take a look!

Upcoming Dates

15th April – First day of new term

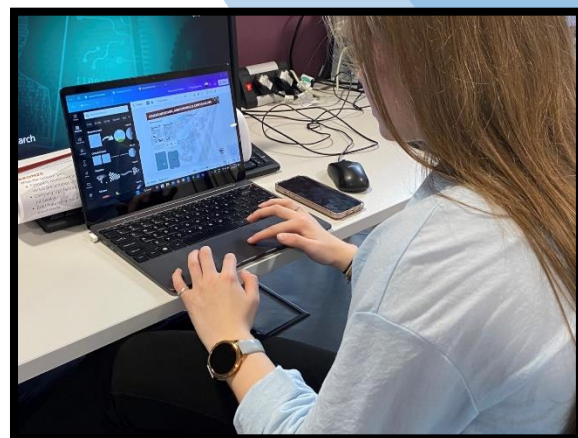
1st May – Bank holiday (UTC closed)

8th May – Bank holiday (UTC closed)

16th May – Date of first summer exam

26th May – End of term 5

26th May – Year 11 end of year celebration and beginning of study leave



The F1 in Schools team finalising the designs for their car.

Key Stage 4 Curriculum Update

In year 10 engineering we have been designing bridges based on research and creating these models in CAD. We have now started to physically build our designs and test their strength.

Ben Williams – Teacher of Engineering

Lockheed Martin Project Day

Berkeley Green UTC rounded off the term with another fantastic project day led by four representatives from our tutor sponsor Lockheed Martin.

With its headquarters in Bethesda, Maryland, Lockheed Martin is an international company that specialises in global security and aerospace. It is principally focused on the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services.

The UK Government plan for all new car sales to be electric from 2030, and to end the UK's contribution to climate change by 2050. Many companies are seeking the opportunity to design and manufacture new technologies that meet the increasingly urgent demand for sustainable travel. Further to this, the possibilities of combining advancements in self-driving vehicle technology with the increasing popularity and coverage of third-party taxi booking services has the potential to revolutionise the taxi industry.

In view of these forthcoming advancements in technology, students were challenged to meet the design and programming brief for a driverless taxi that would operate in Gloucester. They were asked to consider the following factors for their prototype:

- Mandatory electric power
- Sensors must be included
- A plan to recharge vehicles is required
- A payment system must be considered

As always, the brief was split down into an Engineering and a Digital challenge to account for the diverse range of skills amongst our students.

Engineers were tasked with the body of the car, designing it in CAD, researching breakdown and recovery procedures, planning a maintenance schedule, determining battery and motor types, accessibility e.g. access for wheelchair users, and safety precautions e.g. road worthiness, fail safes.

Digital students were tasked to consider how the vehicle could process information from the sensors, how the route of a taxi journey could be booked and programmed, and how the vehicle could decide what action to take on the road. From a user end, they were also asked to conceptualise how customers could call the taxi, pay for the service and operate a taxi app, contactless payment, cash deposit, etc.

All teams needed to consider branding and a way that they could make their product appealing and memorable for consumers.

Among the fantastic designs that impressed the representatives were concepts for airless tyres, aerodynamic cab shells, vandalism-proof charging points, in-built solar-power capabilities, and accessible ticketing systems which could allow all users to easily book and plan routes at ticket stations regardless of whether they owned a smartphone.

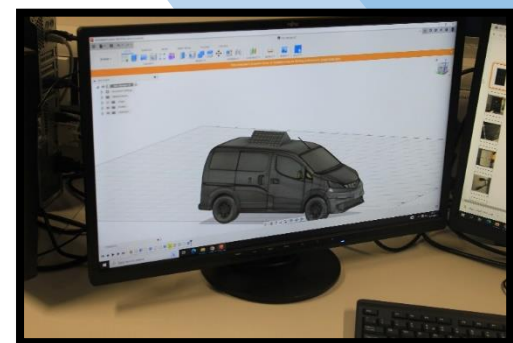
Well done to all the students who took part in our project day; these activities go a long way to embellishing a CV as they really set us apart from all mainstream schools in the area. Also a huge thank you to Lockheed representatives Laura, Immy, Jaimie and Chris for their time spent interacting with and mentoring our students today.



Year 12 students working together to come up with their concept.



Year 10s working on their Lockheed Martin automated taxi solution.



An example of one of the designs produced for the Lockheed Martin project.

Key Stage 4 Curriculum Update

In year 10 Physics this week students have been learning about the physics of matter and specific latent heat. We have also been looking at what causes pressure in gases.

Lesley Ward – Teacher of Physics

Success for Berkeley Green Robotics

On Saturday 25th March, Berkeley Green Robotics visited the First Tech UK Regional Tournament in the American School, Westminster, and went head to head with teams from around the region to compete with their robot 'Gerald'.

After a particularly difficult building season, five representatives from the robotics team showed tremendous courage, determination and outstanding teamwork, which culminated in an excellently strategized qualification for 'Gerald' (20992).

The ingenious claw and winch system was built from scratch by the team who were unable to fund any readily-manufactured parts. 'Gerald' was operated expertly by the team who remained positive and maintained an excellent sporting attitude throughout the day, despite fierce opposition from some impressively constructed entries.

This perseverance paid off when Berkeley Green (Team 384) were invited to join an alliance with Trumpington Community College, with whom they cooperated to reach the Regional Final. Together, students from both schools worked excellently as a team and strategized an incredible competition against the opposing alliance. Ultimately, their alliance qualified as 'runner-up' to the winning teams, however Berkeley Green Robotics and Trumpington Community College were rewarded for their efforts by being invited to the National Finals which will take place in Cambridge later this year.

The five representatives from Berkeley Green have made their school and the rest of their team incredibly proud.



The sixth form Raytheon team with their entry for the First Tech robotics challenge



The Raytheon team taking part in the competition.



The Raytheon team after winning their way into the national finals.