

FEBRUARY 2023 NEWSLETTER

WELCOME BACK

The team has returned from the Christmas break refreshed and excited for the new season. We have welcomed new members to the committee, consisting of old and new faces. Over the summer the team attended competition for the first time since COVID. Challenges were faced with TAU 21/22, but the team have worked hard to diagnose these issues so that this year's car is in the best shape possible. Designs have been finalized and the departments are swiftly moving onto the manufacturing stage. We are all very excited to start building, testing, and attending competition in July.



We would like to extend our thanks to the sponsors and supporters of the team. None of the work we do would be possible with your help, and we are excited to share what we have been working on with you at the end of the year.

DEPARTMENT SPOTLIGHT

We have interviewed our Head of Drivetrain to gain insight into how the team is progressing.

Who are you?

"My name is Matthew Robertson and I am a 4th year MEng Mechanical Engineering student. This is my second year as Head of Drivetrain."

What have you been working on?

"During the first semester I designed a new style of differential mounts for a stressed engine set up and ran Topology Optimisation on them to minimise the mass of the components. I am looking at a reduction of approximately 1kg over the drivetrain assembly, which equates to approximately a 30% reduction in mass verses previous years.

The cost, material wastage and manufacture time has also been significantly reduced by optimising the manufacture process which I have undertaken myself. The components were firstly water-jet cut from 6082-T6 Aluminium plate and then the bearing faces and other complex areas were finished off in the CNC milling machine for increased accuracy, taking total manufacture time to only 3 hours."

What will you need to do in the coming months?

"Moving onto this semester, I will be continuing to look into mass reduction across the department with a design for manufacture approach where my aim is to complete all manufacturing work in-house. This will keep costs down and improve practical skills and knowledge transfer throughout the team. Another project I will be working on is running more simulations on acceleration time estimation to fine tune the gearing and final drive ratios. This will ensure TAU-23 has the most efficient drivetrain to date."



UPCOMING

Preparations for TAU-23 are ongoing and we look forward to showing our finished car at the launch in early June. Until then, be sure to keep a look out on our social media outlets for exciting updates!



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TAU Racing Formula Student



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OUTREACH PROGRAMME

One of the aims of TAU Racing is to introduce the world of STEM to young students. This year, the team has worked with many school students to discuss what university life is like, show what the team do and provide them with an opportunity to ask questions.