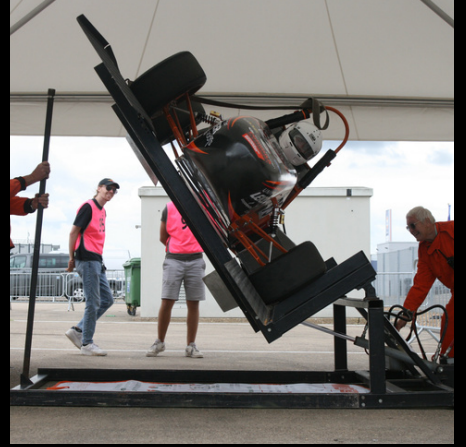


STATUS REPORT

FSUK 2024: THE BEGINNING

WEDNESDAY 8th NOV



FSUK 2024: THE BEGINNING

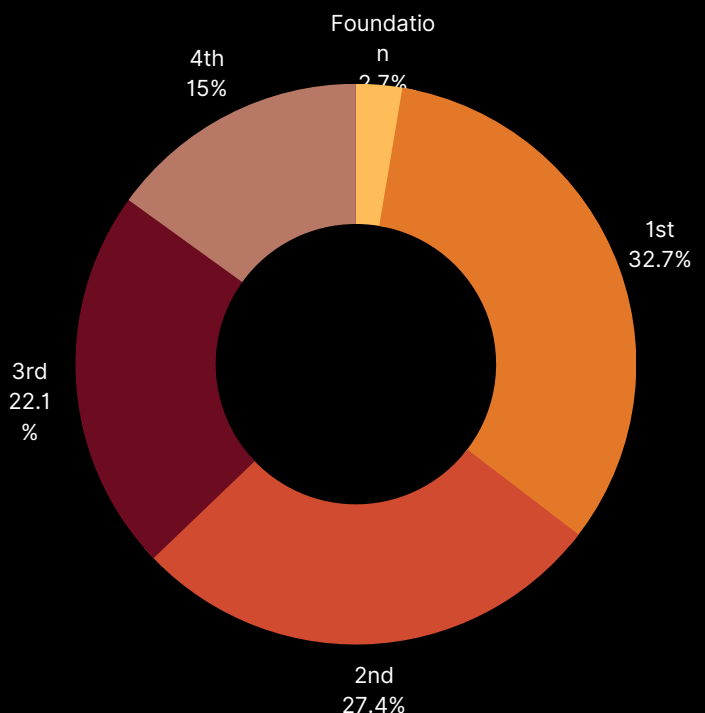
Following our most successful Formula Student season to date which saw the team placing 7th out of 63 teams, UoL Racing has been hard at work preparing for the upcoming season. Over the summer, in the team debrief we discussed what went well and what could have been improved throughout the year and at competition - this feedback has been documented and will be implemented in this new season.

UoL Racing, remains committed to ensuring the team is diverse in knowledge and background. We are also committed to providing our team members with the necessary resources they need regardless of skill level to progress their skills during their time on the team. A breakdown of the FSUK 2023-24 team can be seen below with the team currently standing at around 100 members.

DEGREE DIVISION

DEGREE TITLE	%
Aerospace Engineering	44
Mechanical Engineering	27
General Engineering	10
Engineering Management	3
Computer Science	9
Physics & Similar	4
Business (Various)	3

YEAR GROUP DIVISION



Another key aspect in our success last year was the targets we outlined at the beginning of the season. These technical and team targets are crucial to ensuring the team stays on track and help drive the design ideology. The targets for FSUK 2024 are outlined below.



Meet FSUK deadlines



Completed car for testing prior to competition



Setup FSUK 2025 team



Target mass of 200kg



Target lateral acceleration of 1.6g



Target power of the wheels of 100+ hp

We would like to thank all our sponsors again for their support last season, without which the success of LR02 would have not been possible. We are proud to announce that we will once again be partnering with Caterpillar for the upcoming season! Caterpillar supported the team through the manufacture of parts, design reviews and presentation feedback and we look forward to working with them again this season.

We also are excited to announce a new sponsor for the 2024 season - KRAM Sheet Metals! Based in West Midlands, KRAM are specialists in quick, low volume sheet metal manufacture. They will be supporting the team this season by allowing us access to their manufacturing facilities and supporting us with the procurement of materials.



SUSPENSION

- Suspension point cloud is currently being finalised - decided on direct acting suspension for the front and rear
- Conducting research into appropriate shock absorbers and bearings
- Brake disc design in early stages after literature review

CHASSIS & ERGONOMICS

- Contacted companies regarding chassis manufacture - aiming to have chassis manufactured by end of semester
- Anti Intrusion Plate ready for manufacture
- FEA on radiator mounts is currently being conducted
- Design of new pedal box is underway, preliminary model ready made with trunnion brake
- Steering column design underway
- FEA conducted on wishbone mounts - achieved a factor of safety of 2.2 considering 3mm plate at 20mm length
- Modelled W3 seat and integrated with master model
- New steering rack has been finalised

POWERTRAIN

- New engine purchased - CBR 600RR
- Engine test stand modified and new engine mounted
- Engine diagnostics ongoing on new engine
- Differential hangar/support design underway
- 1D engine simulation using LOTUS underway
- Distance for drive sprockets finalised
- Exhaust development ongoing

AERODYNAMICS

- All members are currently doing STAR CCM+ tutorials
- Researching and documenting the application of flax fibres
- Nosecone design underway

OPERATIONS

Testing

- Members have been assigned to a subteam each to research and plan for subteam specific tests - currently torsional stiffness is being investigated

Lap Time Simulation

- Licenses have been obtained by members and are currently doing tutorials with the aim of using data from this for the design concept specification

Carbon & Emissions

- New members are currently going through old documentation and have identified key areas of development for this season

CAD & Integration

- Cleaning up the LR02 master model
- Getting the team up and running on 3DX for LR03 design

CONTROL

- Collaborated with Powertrain to setup the engine test stand and currently running diagnostics on the new engine
- New dash design is underway - looking to utilise a CANBUS system for digital display
- Complete development of new futureproof telemetry system for data logging and display underway

BUSINESS

Finance & Costings

- Getting up to speed with the Cost Explanatio File, Costings Document and Business Plan Presentation submission

Sponsorship Procurement

- New documentation has been created to track the sponsors for the upcoming year
- Promotional sponsorship material has been updated

Social Media and Marketing

- New website underway - second iteration ongoing
- New team lead photos have been taken to be posted on socials

Wellbeing & Events

- Produced document of ideas for socials, outreach events and panel events - currently assessing feasibility

EV DEVELOPMENT

This is a new subteam developed this year, with sustainability as one of our key aims we recognise it is important for the team to start investigating the transition to EV. This subteam aims to lay the groundwork for this transition and start design development on the future electric cars for UoL Racing.

- Conducting research into building in house accumulator such as components required and optimal placement
- Conducting research into Battery Management Systems
- Conducting research into motors

TEAM MEMBER HIGHLIGHT



Name: Dylan Crawford

Degree: Mechanical Engineering

Year of Study: 3

Dylan has been proactive in seeking out sponsorships in the last few weeks, successfully securing 5 sponsorships for the upcoming season.

Thank you to the team for their hard work as always and thank you all for your ongoing support.

We look forward to sharing the journey of LR03 with you.

**Kind regards,
Monica Peeris**

"SUCCESS IS THE SUM OF SMALL EFFORTS REPEATED DAY IN AND DAY OUT." - ROBERT COLLIER