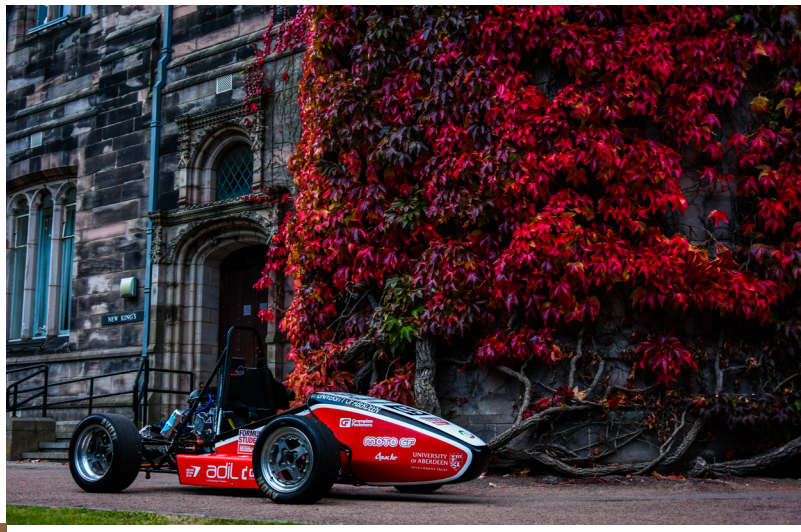
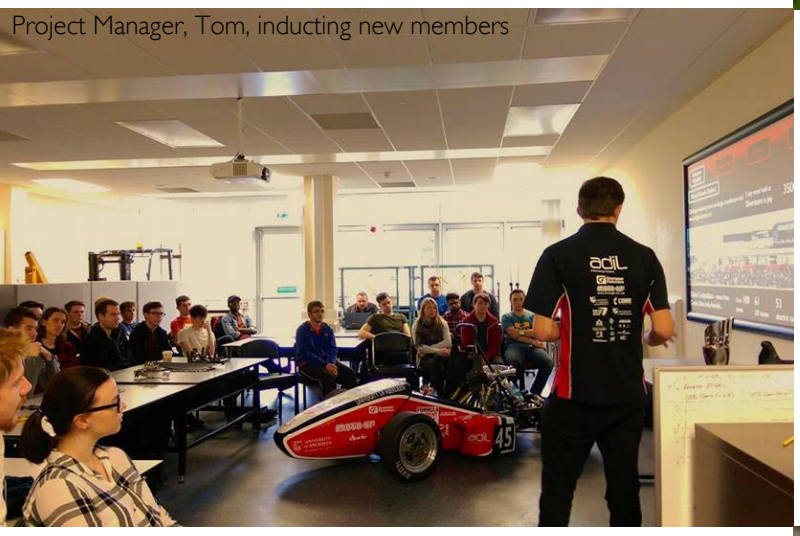
November 2016 Newsletter

FORMULA STUDENT
Institution of MECHANICAL ENGINEERS

www.tauracing.com
TAURacing
TEAM ABERDEEN UNIVERSITY

TAU Racing team have had a busy semester of implementing feedback from the FSUK 2016, recruiting new members into the society and conducting the design the TAU-17 car. Great progress has been made so far and will be continued next semester in the manufacturing stages.



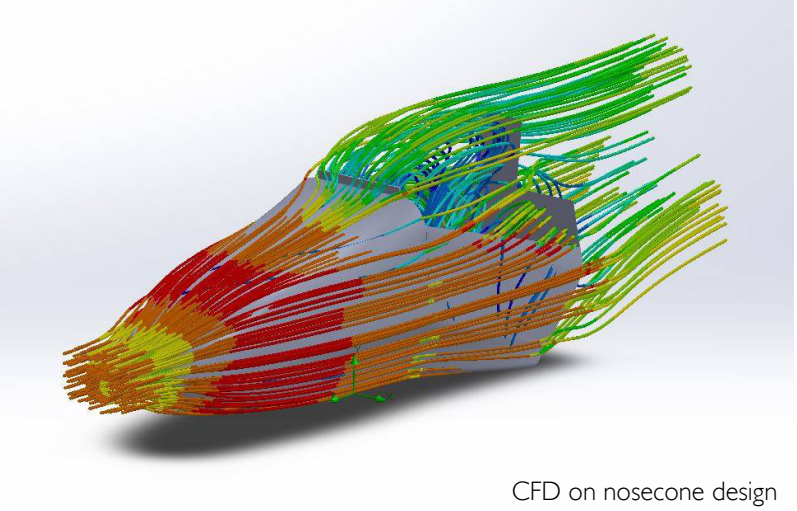


Project Manager, Tom, inducting new members

This year the team has been enlarged, consisting now of almost 50 members from a variety of disciplines throughout the university. There are six final year students in the TAU-17 committee, which means knowledge transfer is crucial. Experienced team members have been running design challenges for the new recruits, to get them up to speed with the different departments of the team before they decide which they want to join. They have been gaining experience throughout the semester, we hope to see them on the committee in future years!

Recently the team has attended a Girls in Engineering event at St Margaret's School for Girls with the University of Aberdeen, where around 100 pupils from all around Scotland with an interest in engineering attended to hear from university and industry professionals. The TAU Racing team started in 2009 with an all male committee and now consists of a range of female and male members, that attended the event to inspire the future generations of female engineers.

Vice-Project Manager, Heather, at St Margaret's School

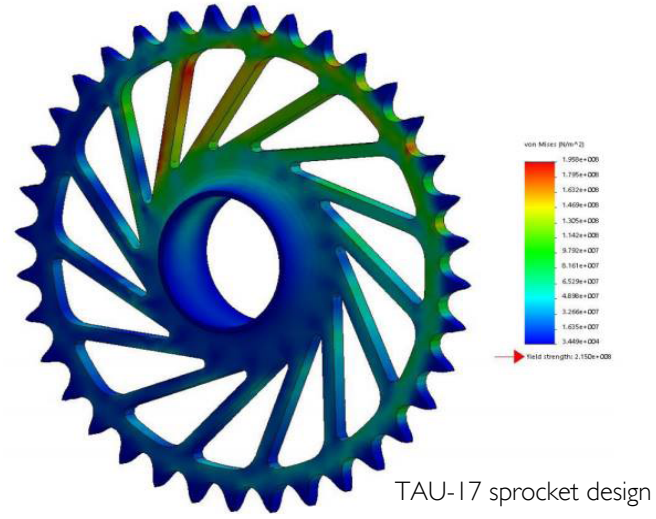


CFD on nosecone design

New members of the Bodywork Team have refined the design of the nosecone for the TAU-17 car. There were two main design aims; the first was to tailor the flow over the top surface of the nose cone to increase down force of the vehicle and the second was to direct the air flow over the driver's head to reduce drag. This was achieved by adding a small windshield to the nosecone. Team members used CFD analysis on SolidWorks to develop the design and aim to manufacture the component in the next months.

The steering design for TAU-17 is being revamped this year to improve the driver's feel for the car and response of the vehicle for the Silverstone events. These refinements are in the form of a newly designed steering column which aims to reduce the weight and free play in the steering system. Another improvement to be made this year is the introduction of several differing geometry set-ups of steering arms with each set-up resulting in a different dynamic response. These arms are to be tested on the track soon where the drivers will provide their feedback on the different set-ups.

Steering Team discussing new ideas



TAU-17 sprocket design

The drivetrain is a crucial system that transmits the power from the engine to the wheels. After a semester of many calculations, the Drivetrain Team's design is nearing completion. The chain adjustment method has been fully redesigned, replacing the previous turnbuckle system with a new eccentric rotating bearing housing. The new design will not only reduce assembly time and complexity, but will also ensure correct alignment of the differential. The rear sprocket design is currently being optimised using mathematical algorithms to minimise weight and maximise performance.

This year, the Business Team is comprised of students from the Business School that have applied the theory learnt in the courses to the Business Presentation. The addition of these students has enhanced the team's knowledge base and has brought a different perspective. Implementing the judges' feedback from the competition, the team have generated new ideas and are currently working on the presentation for the 2017 competition. The team aim to continue the successful results TAU Racing has achieved for the past three years. They are now creating the Business Logic Case, the first submission in the lead up to the Silverstone competition.

Business Team preparing Business Logic Case

For the next two months, the TAU-17 project will be suspended over the exam period. The team will be back in the workshop during Christmas holidays to continue the manufacture of TAU-17. To keep updated visit the TAU Racing website, Facebook and Twitter.