Vehicle Dynamics

Week 4 - GG Plot

Oliver Rose

University of Strathclyde Motorsport

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- Mock Engineering Challenge
- Coding Projects
- Sim Racing Series
- Driver Development / Race Engineering

Sim Racing Series

The Sim Racing Series is a yearly sim racing challenge using Assetto Corsa.

- 6 rounds, beginning in November
- Practice server opens before race
- Tune the setup of the car
- Set the fastest laptime possible
- Finals held at Williams in July
- *More info on the IMechE website*

Charlie Spence will be leading it this year. Intro meeting at 7pm on Tuesday 21st October on Discord.

Driver Development

8 drivers have been selected for this season. We will be running driver development sessions with them.

I'd like to start training people as race engineers:

- Monitor our drivers' performance
- Analyse data using Race Studio
- Identify issues with the vehicle or driving style
- Gather feedback on vehicle handling

I'll hopefully organise some teaching sessions on using software and analysing data.

Mock Engineering Challenge

Coding Projects

Some coding projects which have been requested by the team:

- **Mass distribution calculator:** how does changing the position of a part affect the position of the centre of mass?
- **Suspension compliance model:** how much do the suspension links deform under load?
- **Competitor analysis:** use the competitor database from the new member project to make some graphs of parameters vs performance
- **Setup sheet:** write some code to generate a vehicle setup sheet or read values from it

You can choose which language you use (MATLAB or Python recommended). I'll review the code with you, then it can be used by the team.

Semester 1 Teaching Schedule

Week	Date	Topic
Week 2	30/09/2025	System introduction
Week 3	06/10/2025	Velocity-Acceleration plot
Week 4	**13/10/2025**	**GG plot**
Week 5	20/10/2025	Introduction to laptime simulation
Week 6	27/10/2025	Load transfer
Week 7	03/11/2025	GGV plot
Week 8	10/11/2025	Tyres
Week 9	17/11/2025	Advanced laptime simulation
Week 10	24/11/2025	Advanced tyres


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