

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Race Engineering	ASSIGNMENT: Aerodynamic Vehicle Testing and analysis (F3 Car)
STUDENT: Daniel Salathiel	DATE: 25/4/19

This section details the assessment criteria. The extent to which these are demonstrated by you determines your mark. The marks available for each criterion are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Common Assessment Criteria Applied		Marks available	Marks awarded	Percent Awarded				
1. Research-informed Literature Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions. (e.g. Research of testing procedures, vehicle specifics, aerodynamic principles, testing methods etc)				%				
40-49%: References to a limited range of mostly relevant sources. Some omissions and minor errors. Referencing conventions evident though not always applied consistently. <i>You have only conducted basic research of aerodynamic principles and handling. We would expect a wider range of background reading to be evident at this level.</i> <i>You have only conducted minimal research into testing techniques</i> <i>Aerodynamic fundamentals research could be deeper and investigate aerodynamic balance and the effects on handling. Further embedding of citations within results discussions and conclusions would help make arguments more convincing</i>		10	4.75	48				
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline. (e.g. Choice of tests and explanation of underlying principles)								
70-79%: Excellent knowledge and understanding of the main concepts and key theories. Clear awareness of challenges to established views and the limitations of the knowledge base. <i>You show a good level on understanding of aerodynamics fundamentals and how these may effect vehicle performance in general.</i> <i>You demonstrate some understanding of the methods and techniques applied in the data analysis to characterise the performance of the vehicle.</i> <i>You could have explained the methods implemented in more detail to demonstrate your understanding of these. Handling balance discussion is a little limited - you should have looked at understeer and related this directly to the setup and aerodynamic loading.</i>		20	14.5	73				
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence (e.g. Analysis of data, findings and use of MATH channels)								
70-80%: Thoroughly logical work, supported by evaluated evidence. High quality analysis, developed independently or through effective collaboration. Ability to investigate contradictory information and identify reasons for contradictions. Strong, persuasive, conclusions, justifiable recommendations <i>Generally you have conducted some good analysis of the data obtained to draw some conclusions of the vehicle aerodynamic characteristics. Conclusions could be more persuasive with a deeper analysis</i> <i>Required math channels are well posed, understood and presented. You could have looked at more advanced math channels to help support your analysis and conclusions.</i> <i>Aero maps from straight line test are good. Your drag map appears to have 2 anomalies (9/9 and 18/18) - you should have recognised and commented on these. A good attempt of analysis of CoP histogram but your conclusions from this could be more convincing. Fig 18 - you could have also commented on the spread. You don't appear to have assessed understeer in your results? Straight line results could have been analysed in more detail.</i>		40	29	73				
4. Practical Application and Deployment Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems. (e.g. Test Plan, Use of Motec I2, conclusions drawn from analysis)								
70-79%: An advanced application of a range of methods, materials, tools and/or techniques. The context of the application is well considered, with extensive use of relevant examples. Application and deployment extend beyond established conventions. Innovation and creativity evident throughout. <i>Clear definition of straight line test. Good justification of circuit selection with clear planning of time for test session.</i> <i>Results presented well with a good use of the MOTEC analysis software evident</i>		20	15	75				
5. Skills for Professional Practice Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation. (e.g. Technical report writing and presentation.)								
70-79%: Can communicate professionally and, confidently in a suitable format. Can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Work is coherent, very fluent and is presented professionally. <i>A very professional document which has an excellent structure and is a coherent account of the investigation conducted.</i> <i>Technical report formatting and presentation is excellent.</i> <i>Well structured and presented report. Some results presentation could be clearer - some graphs are small and difficult to read.</i>		10	7.75	78				
Assignment Mark (Assessment marks are subject to ratification at the Exam Board. These comments and marks are to give feedback on module work and are for guidance only until they are confirmed.)		Late Submission Penalties (tick if appropriate) <table><tr><td>Up to one-week late</td><td></td></tr><tr><td>Over one week late</td><td></td></tr></table>		Up to one-week late		Over one week late		
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