

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Race Engineering	ASSIGNMENT: Aerodynamic Vehicle Testing and analysis (F3 Car)
STUDENT: Jack Beynon	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)								
0-29%: Little or no evidence of reading. Views and findings unsupported and non-authoritative. Referencing conventions largely ignored. <i>You should have reviewed a much larger range of sources to support your understanding of the principles being investigated by this report.</i> <i>Little/No research into testing techniques.</i> <i>Some basic research sources cited to support basic aerodynamics knowledge. However this is limited to 2 sources, both of which are web based. At this level we would expect much wider reading to review established views and methods to add confidence in your approach and conclusions.</i>		10	2	20				
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)								
50-59%: Knowledge is accurate with a good understanding of the field of study. <i>You demonstrate a superficial understanding of aerodynamic principles and you could have more clearly indicated how you would have expected the balance and aerodynamic setups to interact</i> <i>You have presented the theory behind the analysis techniques, but limited understanding of these demonstrated</i> <i>Math channel equations presented, but you could have explained these. Good to see coast down procedure outlined and supporting calculations presented, but the reasoning for these could be presented (explaining why we take the two accelerations, one where aero is negligible). Some of the conclusions drawn in the analysis of results indicates a basic knowledge, but your statements aren't always supported by the data.</i>		20	10.5	53				
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)								
50-59%: Evidence of some logical, analytical thinking and synthesis. Can analyse new and/or abstract data and situations without guidance. An emerging awareness of different stances and the ability to use evidence to support the argument. Valid conclusions and recommendations where relevant. <i>Some basic analysis of the data obtained, but you could have looked in more detail at secondary interactions between variables</i> <i>Fundamental math channels present and correct. These could be explained in further detail</i> <i>Some analysis statements are incorrect, lift increase with speed is not 'parasitic drag'. You have notes your results for min-mid indicate lower downforce than min-min (this indicates an error) but you have not recognised or investigated this unexpected trend. You have not plotted some of the graphs required by the assignment brief (drag versus lap distance, speed versus lateral acceleration, centre of pressure, front and rear aero forces). Conclusions drawn regarding vehicle balance from aero load graphs are not supported by this data - you require further evidence here. CoP in corner quoted is a data spike - this should have been recognised. You should have compared understeer to CoP.</i>		40	20	50				
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)								
50-59%: A good and appropriate application of standard methods, materials, tools and/or techniques. Good appreciation of the context of the application, with some use of examples, where relevant. <i>Basic test plan and procedure - this could have been more detailed to show scheduling and team organisation. Good feedback collection for test 2. Presentation of lap data traces are too small to see in a report - you need to think about how you present the traces so that the reader can see the trends you are referring to clearly. Math channel syntax not presented.</i>		20	10	50				
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.)								
50-59%: Can communicate effectively in a suitable format, but may have minor errors. Can work effectively as part of a team, with clear contribution to group activities. Mostly coherent work and is in a suitable structure. <i>A good account of the work conducted. Structure shows some room for improvement to portray your ideas in a more succinct manner.</i> <i>Technical report guidelines only generally followed. You need to refer to the guidelines and make sure you present accordingly in future.</i> <i>Report should be proof read - capital letters missing, missing bookmarks. Equations should be presented as equations not a text string (use equation editor). Spreadsheet presented is too small to read. Tables should be labelled above as tables, equations should be numbered.</i>		10	5.25	53				
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		48 %
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