

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Race Engineering

ASSIGNMENT: Aerodynamic Data

STUDENT: Tiegien Lillicrap

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.)			%
80-100%: Outstanding knowledge of research-informed literature embedded in the work. Outstanding selection of relevant and credible sources. High-level referencing skills consistently and professionally applied. <i>You have conducted some excellent background reading to support your knowledge and analysis of aerodynamic fundamentals and the effect on the handling balance</i> <i>You have conducted some excellent research into testing methods and data analysis techniques to characterise the aerodynamic performance from the data</i> <i>A wide range of relevant references are included and these have been effectively embedded within your discussions to support your methods and base understanding.</i>	10	8.75	88
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 demonstrate an excellent depth of knowledge of the aerodynamic principles and the effect of these on the handling of the vehicle</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>The theory behind some of the calculations implemented is clearly explained demonstrating and excellent understanding of these. Others, such as the vehicle balance equations could be explained further. An appreciation for ground effects could have been clearer when you identified the front wing is the most powerful. Logic regarding negative rakes positive impact on performance is not convincing. A good understanding of aerodynamic principles is evident</i>	20	15.6	78
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>Excellent analysis conducted with evidence based conclusions drawn through fundamental assessment of the data obtained. 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>Generally you have conducted some very good analysis of the data obtained. Trends and findings have been presented with appropriate graphical presentation and you have discussed all trends observed and related these to the aerodynamic principles at play. The effect of the aerodynamic loading on the vehicle balance during the transient phases could have been more clearly characterised.</i>	35	26.3	75
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 12, 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>Test plan and reasoning presented with reference to limitations of these methods in real applications and mitigation factors. Justification for test methods could have been clearer.</i> <i>Generally conclusions drawn are valid with some supporting evidence. Good to see hypothesis tested against findings.</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.)			
80-100%: Can communicate with an exceptionally high level of professionalism. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Work is exceptionally 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>Constant velocity and coastdown diagram repeated. Some discussions could be a little more focussed on the particular application to make the document more concise.</i>	15	11.3	75
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) Up to one-week late Over one week late		
	77	%	