

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Advanced Computational Methods CFD	ASSIGNMENT: CFD : MIRA Car
STUDENT: Amelia Boettcher	DATE: 1/2/19

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. Background research into CFD techniques and models)				%				
60-69%: Inclusion of a wide range of research-informed literature, including sources retrieved independently. Selection of relevant and credible sources. Very good use of referencing conventions, consistently applied. <i>You have demonstrated a reasonable review of sources to support your modelling approach and understanding of the CFD process. A wider range of sources could have been reviewed and contrasted to give greater confidence in your conclusions.</i> <i>Some good research of MIRA reference vehicle results and testing used to support your analysis.</i> <i>You have conducted some good research from a small range of sources which have informed your modelling knowledge. Comparisons of your findings and results with existing studies would have helped support your conclusions and confidence in conclusions.</i>		10	6	60				
2. Knowledge and Understanding of Subject Extent of knowledge and understanding of concepts and underlying principles associated with the discipline. (e.g. Justification of initial mesh strategy, mesh refinements and geometry based on comparisons with windtunnel data)								
60-69%: Knowledge is extensive. Exhibits understanding of the breadth and depth of established views. <i>You show a broad understanding of the CFD process and have been able to create a reasonable model.</i> <i>The initial mesh and the mesh development strategy could be more clearly informed through the analysis of the results.</i> <i>Amelia, you have demonstrated that you understand the principles of CFD model development, and that you understand the results with a good knowledge of the practical importance of these.</i>		25	15.6	63				
3. Analysis Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence (e.g. Analysis of results to help create a validated base case, evaluation of methods used, analysis of aerodynamic device)								
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 good basic analysis of results conducted to assess your modelling strategy. You could have been more critical of results and investigated reasons for any discrepancies</i> <i>Some of the modelling parameters have been investigated but you have not assessed all the parameters mentioned in the brief. The investigations conducted have not been used to clearly develop your method</i> <i>Whilst you have conducted some reasonable assesment of the results obtained, you could have conducted further investigations into the effects of the methodology used on the results such as domain, mesh and turbulence modelling investigations. This would have given more confidence in your conclusions and overall modelling approach.Comparison of results with the emperical data could be more detailed and critical - this could have informed model development</i>		30	17.3	58				
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. Methodology, use of post processor, selection of component design parameters)								
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>You demonstrate that you can develop a working simulation using the software. Some of the simulation setup could be improved.</i> <i>You have used the post processor to visulise and present your results in a clear fashion for conclusions to be drawn.</i> <i>You have created a good base case for initial analysis of the MIRA reference geometry and modified car. Basic postprocessing is used to assess these results but use of the more advanced visualisation tools could have helped you more clearly draw conclusions from the data obtained for the baseline car - you have used some of these tools for the modified geometry.</i>		20	11.5	58				
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.)								
60-69%: Can communicate well, confidently and consistently in a suitable format. Can work very well as part of a team, with very good contribution to group activities. Work is coherent and fluent and is well structured and organised. <i>A very good account of the investigation conducted, could be structured a little more professionally in places.</i> <i>Technical report formatting and presentation generally is very good. A couple of minor errors only.</i> <i>An honest report. Some formatting could be improved but generally presentation is ok. Sections should be numbered.</i>		15	9.75	65				
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		
Up to one-week late								
Over one week late								
		60.1	%					