

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Advanced Computational Methods CFD

ASSIGNMENT: CFD : MIRA Car

STUDENT: Brett Nethell

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) 0-29%: Little or no evidence of reading. Views and findings unsupported and non-authoritative. Referencing conventions largely ignored. <i>Very little research conducted to support your knowledge of CFD or the methodologies to apply to this investigation. We would expect a much larger range of research to be conducted at this level.</i> <i>Little or no research of context of CFD study. This would have helped critique your results and draw firmer conclusions.</i> <i>You have not conducted any academic supporting reading. At this level we would expect you to be reviewing a wide range of literature and citing these throughout your document to support your understanding, analysis and conclusions.</i>	10	0.5	5
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)			
30-39%: Gaps in knowledge, with only superficial understanding. Some significant inaccuracies. <i>You have create a basic mesh but limited understanding demonstrated through the development of the model.</i> <i>You should have looked at results and used these to inform your model refinements.</i> <i>Your model development and discussion indicate a lack of understanding of the CFD process. You have not defined your boundary conditions in the report and the mesh is basic with some errors (you have prism layers on the inlet boundary). Assumptions made could have been defined and justified (ride height, half car)</i>	25	5	20
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)			
0-29%: Unsubstantiated generalisations, made without use of any credible evidence. Lack of logic, leading to unsupportable/missing conclusions. Lack of any attempt to analyse, synthesise or evaluate. <i>You have developed a first basic model, however you have not investigated the modelling parameters and the effects these have on the results. You needed to investigate mesh densities, refinement regions, turbulence models and prism layers.</i> <i>The results obtained were not analysed in the report. You should have used the post processor to assess the results and compared the lift and drag coefficients obtained to the empirical data provided. No evidence of critical assessment of your simulation.</i> <i>Your report presentation is poor. Screenshots are photos of screens rather than screen shots - this is unprofessional. Sections, figures and tables should be numbered. Formatting inconsistent.</i>	30	4.5	15
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)			
0-29%: Limited or no use of methods, materials, tools and/or techniques. Little or no appreciation of the context of the application. <i>Through instructions you have managed to get a working model, however you have not demonstrated you are proficient enough with the software to implement a similar process on a new application</i> <i>Basic use of the post processor only. You could have made more use of the visualisation techniques in the post processor to assess and present your results.</i> <i>Very basic use of the software evident, with little understanding demonstrated.</i>	20	4	20
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.)			
30-39%: Media is poorly designed and/or not suitable for the audience. Poor independent or collaborative initiative. Work lacks structure, organisation, and/or coherence <i>A satisfactory report, but structure and content show room for improvement.</i> <i>Only limited evidence that the report is presented as a technical report. Refer to the technical report guidelines to improve your future technical documents.</i> <i>Your report presentation is poor. Screenshots are photos of screens rather than screen shots - this is unprofessional. Sections, figures and tables should be numbered. Formatting inconsistent.</i>	15	4.5	30
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	18.5	%