

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Advanced Computational Methods CFD

ASSIGNMENT: CFD : MIRA Car

STUDENT: Thomas Eds

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>Little or no research of context of CFD study. This would have helped critique your results and draw firmer conclusions.</i> <i>You have a small number of relevant references. At this level we would expect to see a wider review of literature to support your understanding, methodology and conclusions. Some good use of the limited references reviewed to support modelling methods and analysis of trends in comparison with established views.</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 demonstrate a good understanding of the CFD process and have used this understanding to develop a valid initial mesh and mesh refinements.</i> <i>Some of the choices have been informed by the empirical results</i> <i>A general understanding of fluid principles demonstrated. No research evident to contextualise and understand the MIRA reference geometry application. Wind tunnel size researched - citation? Choice of turbulence models investigated could have been discussed. Some good refinement strategies employed to develop the simulation</i>	25	17	68
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)			
60-69%: Sound, logical, analytical thinking; synthesis and evaluation. Ability to devise and sustain persuasive arguments, and to review the reliability, validity & significance of evidence. Ability to communicate ideas and evidence accurately and convincingly. Sound, convincing conclusions / recommendations. <i>You have conducted some good analysis of your results. You have compared the results obtained to the empirical data and noted any differences - you could have investigated these discrepancies in more detail.</i> <i>You have conducted some good mesh, domain, turbulence model studies which have informed your proposed methodology. These could have been more detailed.</i> <i>Your domain length investigation could have swept each side of the starting setting to demonstrate whether the results deteriorate when length was reduced. Good mesh size, prism layer and mesh type studies completed. Conclusions reached for chosen settings could be more convincing. Turbulence model study is good. Results obtained could have been overlaid with empirical data for comparison.</i> <i>Results could have also been compared to existing studies</i>	30	20.3	68
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)			
60-69%: A very good application of a range of methods, materials, tools and/or techniques. Very good consideration of the context of the application, with perceptive use of examples, where relevant. Evidence of some innovation and creativity. <i>You understand the CFD process and demonstrate some proficiency with the software</i> <i>You have used the basic functions in the post processor to visualise and present the important results to support your model development.</i> <i>Some of the more advanced features of the post processor could have been utilised to make the results clearer</i> <i>Estate investigation is interesting. Results lacked analysis and discussion.</i>	20	13.5	68
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>Good report structure. Tables should be numbered above and be careful of formatting. Proof read your work.</i>	15	10.1	68
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		
	66.9		%