

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Advanced Computational Methods CFD	ASSIGNMENT: CFD : MIRA Car
STUDENT: Christos Zois	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 research of the MIRA reference car, but limited use to validate/critique your results.</i> <i>Some very relevant references including academic sources. You could have reviewed a wider range (there is lots available on CFD vehicle applications and automotive reference geometries). Good to see findings from investigations compared to established views - application results could be more convincing if compared with others results for the MIRA geometry or diffusers.</i>		10	6.25	63
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)				
80-100%: Highly detailed knowledge and understanding of the main theories/concepts, and a critical awareness of the ambiguities and limitations of knowledge. <i>You have clearly understand the CFD process and significance of the modelling decisions made.</i> <i>You have clearly justified your choices with reasoning and applied logical mesh refinements based on the emperical results and other sources.</i> <i>Clear understanding of assignment requirements and the strategy for model development. Good to identify the computational resource as a key. Logical definition of domain sizes for investigation. Evidence you have monitored element quality and developed meshing strategy accordingly.</i>		25	20	80
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)				
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>You have conducted some good analysis of your results. You have compared the results obtained to the emperical data and noted any differences - you could have investigated these discrepancies in more detail.</i> <i>You have conducted clear investigations into simulation parameters such as mesh, domain, prisms, and turbulence models. These investigations have led to logical conclusions implemented in your modelling strategy</i> <i>Clear recognition of results obtained and these are used logically to define your proposed modelling parameters. Domain and mesh scale investigations are very good. Wheel blocks are good investigation but critically you could have discussed potential adverse effects of these. Excellent turbulence model and prism layer investigations - post processing could have supported analysis of the impact of your studies - how are these settings changing the flow observed. Good comment regarding poly mesh. Analysis of pressure distributions could be more critical and further discussion required.</i>		30	23.3	78
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)				
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>You clearly demonstrate that you are proficient with the software and CFD modelling.</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>Nice investigation of diffuser impact with good assesment of load and balance implications.</i>		20	14.5	73
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.)				
70-79%: Can communicate professionally and, confidently in a suitable format. Can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Work is 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 generally is very good. A couple of minor errors only.</i> <i>A well structured and professionally presented technical report. Results are well presented. Very good work Christos. Make sure you check work before submission, some of your automatic reference links in word are broken.</i>		15	11.6	78
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		
		75.6	%	