

## MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: Simulation and Modelling

ASSIGNMENT: CFD

STUDENT: James Milling

DATE: 13/5/19

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 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---------------|-----------------|
| <b>1. Research-informed Literature</b><br>Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                        |               | %               |
| 70-84%: Engagement with an extensive range of relevant and credible literature, informed by the latest research. Consistently accurate application of referencing.<br><br><i>Relevant and applicable sources referenced correctly. Citations used to support statements and approach. Results from existing works directly compared against those obtained by author. Good use of literature James.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10                                                     | 8.25          | 83              |
| <b>2. Knowledge and Understanding of Subject</b><br>Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                        |               |                 |
| 70-84%: Excellent mastery of a complex and specialised area of knowledge. A systematic, excellent understanding of the concepts of the subject informed by current research and scholarship. Highly critical awareness of current problems and/or new insights. A critical, awareness of how the boundaries of knowledge are advanced through research.<br><br><i>CFD process outlined well. Further background of the geometry being utilised would have informed your expectation of results and therefore the methods implemented - characteristic vortex cores. General knowledge of model development and considerations evident. Some of your assumptions could have been justified further. Good to see understanding of expected flow informing mesh strategy.</i>                                                                                                                                                                                                                                                                     | 25                                                     | 18.1          | 73              |
| <b>3. Analysis</b><br>Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                        |               |                 |
| 70-84%: Excellent critical evaluation/ critique of current research and methodologies, Proposes innovative hypotheses, where appropriate. Can synthesise complex issues systematically and creatively. Ability to investigate contradictory or incomplete information and make strong, persuasive, arguments and sophisticated judgements.<br><br><i>Logical approach to development through iterative approach, using results to inform method development. Good to see monitoring of mesh quality through development of the model. Table of runs demonstrates development of model. Excellent use of research to help define mesh density required - this reflects in the results obtained - excellent y+ analysis. Mesh strategy development is very good. Good to see results compared directly to established data and views - this gives confidence in your simulation. You could have conducted more structured domain and mesh investigations to identify trends and convincingly establish the simulation is method independent.</i> | 30                                                     | 24            | 80              |
| <b>4. Practical Application and Deployment</b><br>Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                        |               |                 |
| 70-84%: 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.<br><br><i>Method implemented is clearly defined in the report. Model developed is accurate and confidence inspiring. Some very good post processing to capture flow characteristics. Meshes could have been presented to clearly show the refinement.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 25                                                     | 18.8          | 75              |
| <b>5. Skills for Professional Practice</b><br>Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                        |               |                 |
| 70-84%: Can communicate professionally confidently and consistently in a suitable format. Work is coherent, very fluent and is presented professionally. Can work autonomously with initiative. Where relevant can work professionally within a team, showing leadership skills as appropriate, managing conflict and meeting obligations. Demonstrates excellent professional, postgraduate employment skills and a strong appetite for further development.<br><br><i>Well structured report which is presented in a professional manner. This is a good account of the work conducted for this assessment.</i>                                                                                                                                                                                                                                                                                                                                                                                                                              | 10                                                     | 8             | 80              |
| <b>Assignment Mark</b> (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.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Late Submission Penalties (tick if appropriate)</b> |               |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Up to one-week late                                    |               |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Over one week late                                     |               |                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>77</b>                                              | <b>%</b>      |                 |