

| MARKING CRITERIA AND STUDENT FEEDBACK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                        |                 |               |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------|-----------------|---------------|---|
| MODULE: Research Methods and Project                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                        |                 |               |   |
| ASSIGNMENT: Dissertation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                        |                 |               |   |
| STUDENT: Michael Cuniffe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                        |                 |               |   |
| DATE:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |                                                        |                 |               |   |
| 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 |   |
| <b>1. Engagement with Literature Skills (research/literature survey)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                        |                 |               |   |
| Extent of research and/or own reading; selection of credible sources; application of appropriate referencing conventions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                        |                 |               |   |
| 80-100%: Outstanding knowledge of research-informed literature embedded in the work. Outstanding selection of relevant and credible sources. High-level referencing skills consistently and professionally applied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                        | 10              | 8             |   |
| I'd say that this is the strongest element of your work, you have used a range of resources from some very renowned engine builders. Well done.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                        |                 |               |   |
| There is some citations throughout the report supporting your statements but you provide a limited insight as to how you reached the actual statement in the first place. Some research into validation of live and simulation testing would have been an advantage.                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                        |                 |               |   |
| <b>2. Knowledge and Understanding Skills (ability to identify problems)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                        |                 |               |   |
| Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |                                                        |                 |               |   |
| 50-59%: Knowledge is accurate with a good understanding of the field of study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |                                                        | 30              | 15            |   |
| You display good knowledge on your subject in the main, however it is quite basic more akin to that required from your second year Advanced Powertrain cylinder head assignment, and not really advanced enough for a level 6 project. You have too many aims which are not focussed enough and some are more like objectives rather than aims. Please see turnitin for more comments on the document.                                                                                                                                                                                                                                                                                |  |                                                        |                 |               |   |
| Initially you define limitations on design due to race regulations, reliability and noise restrictions along with some alternative designs which basically this should have been within your seminar. You provide too much fundamental discussions regarding setup with flow bench and dynamometer live testing. How was the modifications to the head implemented in other words, what angles and dimensions of the ports were initially calculated and how were they devised?                                                                                                                                                                                                       |  |                                                        |                 |               |   |
| <b>3. Cognitive and Intellectual Skills (technical ability, analytical content and ability)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |                                                        |                 |               |   |
| Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                        |                 |               |   |
| 40-49%: Evidence of some logical, analytical thinking and some attempts to synthesise, albeit with some weaknesses. Some evidence to support findings/ views, but evidence not consistently interpreted. Some relevant conclusions and recommendations, where relevant                                                                                                                                                                                                                                                                                                                                                                                                                |  |                                                        | 30              | 13.5          |   |
| Generally lacking here, you have performed some good quality basic analysis of the flow bench data you collected, I really feel you could have gone into a lot more detail comparing this with your rolling road data. As it was you just described the graph curves in words and didn't elaborate much as to what else might be going on. It really needed another element involved. Maybe some WAVE software modelling or maybe even CFD if you'd have put your mind to it. Basically your lack of communication with me throughout this year has been a detriment to what you could have done. You could have always requested a different supervisor if you didn't want/ like me! |  |                                                        |                 |               |   |
| You provide some data sets and graphs of both the inlet and exhaust flows for both types of cylinder heads at different valve lifts but your analysis is mainly observational with limited technical evaluation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                        |                 |               |   |
| <b>4. Practical Application Skills (progression/achievement, ability to draw conclusions and understand results)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |                                                        |                 |               |   |
| Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                        |                 |               |   |
| 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |                                                        | 20              | 11.6          |   |
| You have some good practical work carried out, more than most could hope for a dissertation. Some of your explanation of this was a bit excessive, not really level 6 worthy. As stated before, some modelling of this work might have been of more value to your degree.                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                        |                 |               |   |
| Your methodology was too basic for this level. Being informed how to dismantle the cylinder head and roller test etc. was not required. What was required was evidence through CAD drawings and CFD analysis to prove what angles and dimensions the port needed to be modified, followed by a technical evaluation of these processes. You actually carry out some validation of your work by comparing both types of cylinder heads however, your validation of your data is limited throughout.                                                                                                                                                                                    |  |                                                        |                 |               |   |
| <b>5. Transferable Skills for Life and Professional Practice(presentation and organisation of report)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                        |                 |               |   |
| Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |                                                        |                 |               |   |
| 50-59%: Can communicate effectively in a suitable format, but may have minor errors. Mostly coherent work and is in a suitable structure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |                                                        | 10              | 5             |   |
| Not the nicest structure, again, had you have emailed this to me a week before, we could have gotten you probably 10-20% more for this section. It feels clumsy to read sentence structures, choice of words and language don't give it a professional feel. General structure needs attention, I would expect you to have this perfect by year 3. Tell me honesty, have you ever read the report writing handbook on Moodle?                                                                                                                                                                                                                                                         |  |                                                        |                 |               |   |
| Abstract and introduction was provided, although your aims should have been expressed within your introduction. Within your aims they need to be more concise which would have help to clarify what your project was trying to investigate. Why did you discuss different fuel delivery within your literature section? I think you should have engaged more with your supervisor which might have actually keep you project on track. Conclusion was concise and we acknowledge the issue that you were going through towards the end of the project.                                                                                                                                |  |                                                        |                 |               |   |
| <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> |                 | 53.1          | % |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Up to one-week late                                    |                 |               |   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Over one week late                                     |                 |               |   |