

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: ACD85007 - Computer Aided Engineering	ASSIGNMENT: Report
STUDENT: James Burton	DATE: 20/05/2026

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	% Awarded
1. Engagement with Literature Skills Use of literature sources in support of you discussions throughout the report 70-79%: 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>Literature has been used effectively in the report, particularly within the introduction and validation sections, where relevant sources are used to support key concepts and contextualise the work. The inclusion of both academic and applied sources relating to ballistic impact and material behaviour strengthens the credibility of the study.</i> <i>There was an opportunity to integrate literature more consistently throughout the results analysis, particularly when discussing observed trends in stress, strain and deformation. Greater linkage between the presented results and published findings would have further strengthened the analytical depth in later sections.</i>		10	7.5	75
2. Knowledge and Understanding Skills Discussion and demonstration of the underlying principles relating to stress/strain calculations and CAE software. Analytical and computational validation could be an effective way of critically appraising these areas. 60-69%: Knowledge is extensive. Exhibits understanding of the breadth and depth of established views. <i>A good level of knowledge and understanding is demonstrated, particularly in relation to explicit dynamics, material behaviour, and CAE workflows. The report clearly outlines the process of setting up and running simulations, including mesh generation, boundary conditions and solver settings.</i> <i>The discussion of material response (e.g. ductile vs brittle behaviour) shows appropriate application of engineering principles to interpret results. The inclusion of validation against published and experimental studies also supports understanding of simulation accuracy.</i> <i>There is scope to develop this further by exploring the underlying theory in more depth, particularly in relation to the solver behaviour and governing mechanics (e.g. stress wave propagation, contact modelling). Some sections remain descriptive where further technical explanation would strengthen the work.</i>		30	20.1	67
3. Cognitive and Intellectual Skills Use of iterative design techniques, based on analysis of prior results to inform future designs. Analysis, interpretation, and review of results to determine the structural limitations of components. 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>The work demonstrates good analytical capability, particularly through the mesh independence study and comparison of material behaviour. The progression from coarse to refined meshes and the identification of a point of mesh independence is clearly presented and justified with reference to both accuracy and computational efficiency.</i> <i>The comparison between aluminium and copper provides a meaningful interpretation of results, with logical explanations linked to material properties and behaviour under impact conditions. The validation against external studies also strengthens the credibility of the conclusions drawn.</i> <i>There was, however, scope to extend the analysis further. In particular, some of the trends observed (e.g. stress distribution, node deletion, penetration behaviour) could have been explored in greater depth, and additional targeted investigations (such as variation in velocity or mesh strategy) could have added further insight. Greater critical evaluation of anomalies or limitations within the results would also strengthen this area.</i>		30	21.9	73
4. Practical Application Skills Use of skills to generate a suitable assembly, with accurate boundary conditions applied. Suitable application of methods to perform structural analysis on components and generate representative results. 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>The practical application of CAE tools is a strong aspect of this submission. The workflow is clearly demonstrated, including model setup, material selection, meshing strategy, and application of boundary conditions. The use of a sphere of influence to control mesh refinement is particularly effective and shows good understanding of efficient modelling techniques.</i> <i>The simulations generate a range of meaningful outputs (deformation, stress, strain and velocity), which are used effectively to support the discussion. The inclusion of a boundary condition variation further demonstrates an awareness of how modelling choices influence results.</i> <i>There is some scope to extend the practical work further, for example by exploring additional solver parameters or refining mesh strategies in more detail. However, the overall application is competent and appropriate for the level.</i>		20	14.6	73
5. Transferable Skills for Life and Professional Practice Quality and presentation of written report. 80-100%: Can communicate with an exceptionally high level of professionalism. Can work exceptionally well and professionally within a team, showing advanced leadership skills. Work is exceptionally coherent, very fluent and is presented professionally. <i>The report is well structured and presents the work in a clear and logical format, with a strong use of headings and progression through the study. The inclusion of figures and graphs supports the communication of results effectively.</i> <i>In places, clarity could be improved, particularly where large numbers of figures are presented without sufficient accompanying explanation. Some minor issues with phrasing and conciseness are also present, but these do not significantly detract from the overall quality of the submission.</i>		10	8	80
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)		72	%
	Up to one-week late			
	Over one-week late			