

MARKING CRITERIA AND STUDENT FEEDBACK

MODULE: ACDB5007 - Computer Aided Engineering	ASSIGNMENT: Report
STUDENT: George Butcher	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. 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>Literature has been used well in some areas of the report, although there was scope to have included a greater level of literature support in some of the key areas of the document to lend further support and validity to discussion points. Good that you carried out some comparative analysis to published data, again this could have been more extensive.</i>	10	6.3	63
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.			
70-79%: Excellent knowledge and understanding of the main concepts and key theories. Clear awareness of challenges to established views and the limitations of the knowledge base. <i>The discussion of key concepts such as mesh dependency, boundary conditions, and validation shows solid technical understanding, particularly in recognising that CAE outputs are approximate and dependent on assumptions. The inclusion of a simplified analytical validation using kinetic energy relationships is also appropriate for this type of problem and supports understanding of the physical behaviour. There is scope to develop the depth further in places, particularly in relation to solver behaviour (e.g. contact modelling, element formulation, stress wave behaviour), but overall the level of understanding shown is very good</i>	30	21.6	72
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.			
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>The mesh study is handled well, with clear identification of how results change with refinement and an appropriate discussion of why values do not always vary in a simple way. The recognition that coarse meshes can produce misleading peaks, and that refinement introduces trade-offs (e.g. stability issues), shows good critical awareness. The boundary condition study is particularly effective, with clear comparison between different constraint setups and logical explanation of how stiffness and energy dissipation influence stress results. The discussion goes beyond description and demonstrates understanding of why the behaviour occurs. There is still scope to extend the analysis further, for example by investigating additional parameters or exploring some results in more depth, but overall the level of critical evaluation is decent. Some additional comparison of trends to published could have been shown.</i>	30	20.4	68
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 study shows good practical engagement through the metrics chosen to study. The use of a sphere of influence and the discussion of associated numerical issues (e.g. instability and energy errors) is particularly strong and demonstrates good practical awareness of solver limitations. There is some scope to extend the practical investigation further (e.g. additional mesh strategies or solver settings), but the work as presented demonstrates strong competence for the level.</i>	20	14.4	72
5. Transferable Skills for Life and Professional Practice Quality and presentation of written report.			
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>The general presentation and formatting of the report is good, and conveys the content to a decent standard. Graphical data has been used well to support discussion points, although some of it could have been clearer in places. There are some minor errors in places, and small formatting things like major sections not starting on fresh pages etc. but overall still good.</i>	10	7	70
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.)	70 %		
Late Submission Penalties (tick if appropriate)			
Up to one-week late Over one week late			