

MARKING CRITERIA AND STUDENT FEEDBACK			
MODULE: Material Science ACDA 6061			
ASSIGNMENT: Analysis for the prevention/minimisation of material failures			
Peter Kenrich 1910613			
DATE: 27/12/2022 PH			
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	
1. Engagement with Literature Skills (including reading, referencing, academic conventions and academic honesty)			
60-69%: Engagement with a wide range of literature, including sources retrieved independently. Selection of relevant and credible sources. Generally sound referencing, with no/very few inaccuracies or inconsistencies. An interesting and historical introduction and review of mail armour. The method of manufacture by steel/wrought iron forging was of interest (cherry red is about 800 C). Good literature review, in the form of references, at the end of your report which were both current and appropriate, rather surprising for a 3000 year old item.	15	10	
2. Knowledge and Understanding Skills Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.			
60-69%: Competent knowledge of the basic underlying concepts and principles. Exhibits very good understanding. Clear knowledge of many of the failure mechanisms discussed in lectures with some overall relationship to mail armour. It is clear by your inclusion of these failure mechanisms, together with your overall comments, that you have a good understanding here. It is likely that this type of armour was either too soft (low c) or brittle due to slag inclusions and poor heat treatment.	20	13.6	
3. Cognitive and Intellectual Skills Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence			
60-69%: Sound evaluation of the underlying concepts and principles. Can interpret qualitative and quantitative data accurately. Ability to devise arguments using evidence to make mostly appropriate and valid judgements. Analysis of your report was evident in your sections on failure modes and to some extent in the conclusions. Here you considered some relevant factors such as material properties and failure modes, concentrating on what you considered to be the problem in hand, which was well done, but I would have liked to have seen a little more evaluation overall.	20	13.2	
4. Practical Application Skills Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems.			
60-69%: A very good application of a range of basic methods, materials, tools and/or techniques. Very good consideration of the context of the application. Very good evidence of different approaches to problem-solving in particular contexts and proposes appropriate solutions. A very interesting and appropriate choice for this assignment which was ideally suited to failure analysis. Some good inclusion of the appropriate potential failure modes, particularly in relation to corrosion and material selection, although your suggestions to improve what is an ancient product may be inappropriate particularly with inferior materials. Titanium alloy would be a very good choice for chain mail today, but processing would be difficult.	30	20.4	
5. Transferable Skills for Life and Professional Practice Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation.			
60-69%: Work is coherent, very fluent and is presented professionally. Can work effectively independently and/or as part of a team, with an excellent contribution to group activities. Demonstrates excellent skills for employment requiring the exercise of some personal responsibility with an appetite for further development. A well presented report, which would have been enhanced if you had used one or two illustrations. I was pleased to see that you concluded your work and you used bullet points here. Similarly a good recommendation section with some sound evaluation to finish.	15	10.2	
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	67.4	%