Applied Mathematics & Computing Group

Cranfield UNIVERSITY

ASSIGNMENT MARKS

ACADEMIC YEAR 2011/2012

SECTION A

Student No:

Lecture Course: **MSc in Computational & Software Techniques in Engineering**

Lecturer(s): **Peter Sherar**

Assignment Title: **CAE Applications- Solid Modelling**

Date Issued: **17/10/11** Latest Submission Date: **12th December 2011**
Date Submitted by student: **12th December 2011**

SECTION B

Section and total marks available	Mark allocated	Comments
➢ Isometric display with hidden line geometry: **Marks available 16**	14/16	
➢ The two dimensional profiles and sketches: **Marks available 12**	9/12	
➢ The drawing of the geometry in isometric view with Principal dimensions: **Marks available 8**	6/8	See
➢ The detailed multi-view drafting display with principal dimensions (This should contain front, top, right and isometric views) **Marks available 14**	12/14	Attached Sheet for
➢ The mass properties: **Marks available 18**	16/18	Comments
➢ The summary report on the construction techniques: **Marks available 16**	11/16	
➢ The summary account of the benefits of solid modelling; **Marks available 16**	13/16	

Additional comments
An excellent performance, demonstrating a comprehensive understanding of the principles of the subject and their application.
***** See detailed comments on the attached sheet. *****

Overall mark	81/100	Signature/Date	Peter Sherar 18th Jan 2011

Student Name: Romain PINQUIE

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Comments

The assignment was carried out to an excellent standard.
The assignment report gives detailed information on:-

- *two isometric views with hidden edges invisible and hidden edges as dashed lines.*
- *detailed profile and cross section information used to create the three dimensional geometry.*
- *an isometric view of the slider showing the principal dimensions of the component.*
- *a detailed A4 drawing generated from the solid model, using the Master Drafting task, showing the front, top, right and isometric views.*
- *Details of the mass properties of the component.*
- *a summary report explaining how the slider was constructed.*
- *a report outlining the benefits of solid modelling for mechanical design.*

The assignment was carried out to an excellent standard and is complete in a number of aspects. However even more marks could have been gained by:-

- *Including part equation relationships. It would be beneficial to show that part equations had been used and to demonstrate how they had been utilised in all the relevant variational sketches. This plays a major role in capturing the full design intent and thus demonstrating good modelling practice.*
- *Showing even more evidence that the design intent has been successfully captured by showing that the variational sketches remain fully constrained when all the principal design dimensions are modified and updated. Thus demonstrating even more good modelling techniques by illustrating that the design intent of the component has been successfully captured by showing that the variational sketches remain fully constrained after all the key principal design dimensions are modified and updated.*
- *Describing and defining the variational geometry in even more detail. Although the variational sketches were presented in the report it would have been beneficial to show even more details of how the variational sketches were defined and constrained by showing the main constraints that have been used to fully constrain the variational geometry.*
- *Including more information on modelling techniques, good modelling practice and effective use of CAD modelling parameters used in the design of the component as described in the construction report.*

Student Name: **Romain PINQUIE**

Sign and date **Peter Sherar**
31st Jan 2012