



Unit Assessment Record (UAR)

Engineering Principles (Mechanical) (D3PV 04)

Credit Value: 1

NB: After entering your personal details please pass this document to your tutor for completion and eventual return to COLU. You may wish to retain a copy for your own use.

TITLE:	SURNAME:	UNIT TUTOR:
FORENAME(s):	CENTRE:	
HOME ADDRESS:	ADDRESS:	
.....	
.....	
POST CODE:	POST CODE:	
HOME TEL:	TEL NO:	
WORK TEL:	FAX NO:	
FAX NO:	E-MAIL:	
E-MAIL:	CENTRE CONTACT:	

SQA REG. NO:	UNIT START DATE:
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AUTHENTICATION OF EVIDENCE – INTERVIEW **DATE:**

PORTFOLIO OF EVIDENCE AVAILABLE

EVIDENCE AUTHENTICATED

ALL OUTCOMES SATISFIED

Please initial as appropriate

NOTES:

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GRADE

REFER PASS MERIT

FINAL GRADE: Please initial as appropriate

ASSESSOR:

DATE:



FOR COLU USE ONLY

VERIFIER:..... DATE:

Evidence Log – For each of the performance criteria please clearly identify the evidence within the portfolio that satisfies the criterion.

1) Solve problems involving beams

TMA Evidence

Supplementary Evidence & Location

(a) Conditions for equilibrium are stated.
(b) Shear force and bending moment values are correctly determined.
(c) Scaled shear force, bending moment and thrust diagrams are correctly constructed.
(d) The bending formula is applied correctly.
(e) Selection of an I-section beam from universal beam data is correct for the given loading.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2) Solve problems involving thermal stresses

(a) Changes in length due to temperature change are correctly determined.
(b) The magnitude and nature of stresses due to temperature change are correctly determined.
(c) Accuracy of calculations is appropriate to the data provided.

_____	_____
_____	_____
_____	_____

3) Solve problems involving power transmission

(a) The theory of torsion is applied to drive shafts.
(b) The magnitude and nature of stresses in drive shafts and couplings are determined.
(c) Solutions to problems relating transmitted power to vee belt dimensions are methodical and correct.

_____	_____
_____	_____
_____	_____

4) Apply dynamic principles to problems involving motion

(a) The appropriate principles of linear and angular motion are correctly applied.
(b) Stages in the solution of mechanical system problems indicate a logical approach.

_____	_____
_____	_____

5) Apply thermodynamic principles to simple fluid process problems

(a) Fluid properties are determined using property tables where necessary.
(b) The general energy equation for fluids is applied appropriately.
(c) The continuity equation is applied correctly.

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_____	_____
_____	_____

Assessment Matrix – The matrix indicates which instruments of assessment, within the primary assessment package, are required to satisfy individual performance criteria.

The column titled **Merit** identifies where particular opportunities exist for candidates to develop their work with a view to satisfying the requirements for the award of merit.

The row titled **Minimum Evidence Requirement** indicates the minimum number of examples required (or times a task must be performed) to satisfy a particular performance criterion.

Engineering Principles (Mechanical)

OUTCOMES/PERFORMANCE CRITERIA		Qu	1a	1b	1c	1d	1e	2a	2b	2c	3a	3b	3c	4a	4b	5a	5b	5c	6a	6b	6c	Merit			
EVIDENCE	TMA - 1 (v2)	1	X																						
		2		X	X																				
		3					X																		
		4					X																		
		5		X	X																				
	TMA - 2/3 (v2)	1										X												X	
		2										X													
		3							X	X	X														
	TMA - 4/5/6 (v2)	1													X	X									
		2													X	X									
		3													X	X									
		4											X												
	TMA - 7/8 (v2)	1															X	X							
		2															X	X							
		3																X		X	X	X	X	X	X
	4																				X	X			
	5															X									
SUMMATIVE ASSIGNMENT (v2)	1		X			X																		X	
	2													X	X									X	
	3															X	X							X	
MINIMUM EVIDENCE REQUIREMENT			1	2	2	1	1	1	1	1	1	1	1	3	3	1	2	3	1	2	2		5		

Merit Statement

To gain a pass in this unit, a candidate must meet the standards set out in the outcomes, performance criteria, range statements and evidence requirements.

To achieve a merit in this unit, a candidate must demonstrate a superior or more sophisticated level of performance. In this unit this might be shown in the following way:

- demonstrating an ability to relate theoretical principles to practical situations.