Unit Assessment Record (UAR)

Separation Processes II (D3RA 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: .....

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) Appraise the design and performance of evaporation equipment	**TMA Evidence**	**Supplementary Evidence & Location**
(a) Identification and descriptions of the standard types of evaporator are correct in terms of their operating principles.		
(b) Comparisons of the performance of the standard types of evaporator for a given set of conditions are correct in terms of efficiency and running costs.		
(c) Evaluation of the effects of temperature and pressure on evaporator operation is correct in terms of product specification.		
(d) Selection of an evaporator unit for a given application is correct in terms of current industrial practice.		
(e) Solutions to problems relating to mass and energy balances on evaporation equipment are accurate for a given set of conditions.		

2) Analyse the design of crystallization equipment		
(a) Construction and interpretation of solubility and saturation curves, from a given set of data is correct and in accordance with the accepted convention.		
(b) Factors affecting the growth, size and rate of formation of crystals are correctly identified and evaluated.		
(c) Solutions to problems relating to mass and energy balances on crystallization are accurate for a given set of conditions.		
(d) Explanation of the techniques used to produce supersaturated solution and crystal nuclei are correct in terms of evaporation, cooling and seeding.		

3) Appraise the performance of crystallization equipment		
(a) Identification and description of the standard types of crystallizer are correct in terms of their operating principles.		
(b) Comparisons of the performance of crystallization equipment are accurate in terms of efficiency and running costs.		
(c) Evaluation of the effects of temperature and pressure on crystallization processes is correct in terms of operational requirements.		
(d) Selection of a crystallizer for a given application is correct in terms of current industrial practice.		

4) Analyse the factors which affect the rate of separation of solid particles from liquids		
(a) Identification and evaluation of the factors affecting the rate of filtration of solid particles from fluids is correct in terms of the properties of the particles, fluid, filter medium and ambient condition.		
(b) Solution to problems relating to the rate of filtration of solid particles from fluids are accurate for a given set of conditions.		

5) Appraise the design and performance of equipment used for separation of solid particles from liquids	**TMA Evidence**	**Supplementary Evidence & Location**
(a) Identification and descriptions of the standard types of filtration equipment are correct in terms of their operating principles.		
(b) Comparisons of the performance of the standard types of filtration equipment, for a given set of conditions, are accurate in terms of efficiency and running costs.		
(c) Selection of a piece of filtration equipment for a given application is correct in terms of current industrial practice.		

Additional Evidence – Identify any additional evidence, e.g. transcript of oral interview questions and responses/checklist or additional assessment exercises, etc.

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Use additional sheets as required

Justification of Merit Award .....

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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.

Separation Processes II

	OUTCOMES/PERFORMANCE CRITERIA	Qu		1a	1b	1c	1d	1e		2a	2b	2c	2d		3a	3b	3c	3d		4a	4b		5a	5b	5c		Merit
EVIDENCE	TMA - 1 (v2)	1		X	X																						
		2		X	X																						
		3				X																					
		4					X																				
		5						X																			
	TMA - 2 (v2)	1								X			X														
		2									X																
		3													X												
		4														X											
		5															X										
		6																X									
		7								X		X				X											
	TMA - 3 (v2)	1																		X							
		2																			X						
		3																			X						
	TMA - 4 (v2)	1																					X				
		2																						X	X		
		3						F	O	R	M	A	T	I	V	E											
	MERIT ASSIGNMENT (v2)	1						X																			X
		2														X		X									X
		3																			X						X
MINIMUM EVIDENCE REQUIREMENT				2	2	1	1	1		2	1	1	1		1	2	1	1		1	1		1	1	1		2

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 by a systematic approach to the solution of problems of a more complex nature involving, for example, the extraction and interpretation of information from standard reference sources.