

MODULE TITLE	Process Design and Equipment Selection		CREDIT VALUE		15
MODULE CODE	CSMM121		MODULE CONVENER		Dr Richard Pascoe (Coordinator)
DURATION: TERM	1	2		3	
DURATION: WEEKS					
Number of Students Taking Module (anticipated) 24					

DESCRIPTION - summary of the module content

AIMS - intentions of the module

One aim of the module is to give students a comprehensive understanding of the techniques involved in the selection and sizing of a range of mineral processing equipment. A further aim of this module is to foster understanding of mathematical and statistical techniques used to interpret data derived from experimental programmes.

INTENDED LEARNING OUTCOMES (ILOs) (see assessment section below for how ILOs will be assessed)

SYLLABUS PLAN - summary of the structure and academic content of the module

Term 1 Week 1. Introduction: The design of testwork programs. Comminution circuits: Overall design of comminution circuits, including methods for selection and standard ore testing procedures. Week 2: Design and selection of screening circuits. Week 3: Design and selection of grinding equipment (autogenous, rod and ball mills). Analysis of process data using descriptive statistics 1. Week 4: Selection of classification equipment (hydrocyclones etc.). Analysis of process data using descriptive statistics 2. Week 5. Flotation: Design of testwork programs. Selection of a flotation circuit from plant data. Analysis of process data using descriptive statistics 3. Week 6: Dense medium separation: Prediction of plant performance using partition curves derived from Ep values. Analysis of process data using principal component analysis. Week 7: Analysis of process data using ANOVA, fuzzy logic and neural networks.

LEARNING AND TEACHING

LEARNING ACTIVITIES AND TEACHING METHODS (given in hours of study time)

Scheduled Learning & Teaching Activities

Guided Independent Study

Placement / Study Abroad

DETAILS OF LEARNING ACTIVITIES AND TEACHING METHODS

ASSESSMENT									
FORMATIVE ASSESSMENT - for feedback and development purposes; does not count towards module grade									
SUMMATIVE ASSESSMENT (% of	credit)								
Coursework	100	Written Exams	0	Practi	cal Exams				
DETAILS OF SUMMATIVE ASSESS	MENT								
DETAILS OF RE-ASSESSMENT (where required by referral or deferral)									
RE-ASSESSMENT NOTES									
RESOURCES									
INDICATIVE LEARNING RESOURCES - The following list is offered as an indication of the type & level of information that you are expected to consult. Further guidance will be provided by the Module Convener									
Reading list for this module: There are currently no reading list entrie	es found for th	nis module.							
CREDIT VALUE	15		ECTS VALUE		7.5				
PRE-REQUISITE MODULES	None								
CO-REQUISITE MODULES	None								
NQF LEVEL (FHEQ)	M (NQF Level	7)	AVAILABLE AS DISTANCE LI	EARNING	No				
ORIGIN DATE	Monday 12 M	larch 2012	LAST REVISION DATE		Wednesday 17 October 2012				

KEY WORDS SEARCH None Defined Wednesday 17 October 2012