

Designing Maglev Systems Instrument

Reliability Report

Scales for the Designing Maglev Systems (ML) instrument's questions were constructed from a sample of 371 students completing the assessment (version ML-8A 10/6/2010). A scale of all 24 questions was calculated as the sum of all correct answers. This scale was tested for internal reliability using Post-test data and was found to have a Cronbach's α of .776 (n=305). The table below presents reliability information for the ML instrument's scales and items.

Scale	N of Students	# Items	Items	Reliability: Cronbach's α	Factors Extracted
All	305	24	1-24	.776	7
All Engineering	330	11	2, 3, 5, 10, 17, 19-24	.721	3
Design	340	6	19-24	.630	2
Transport Engineering	350	5	2, 3, 5, 10, 17	.689	1
Science: Properties of Magnets	329	13	1, 4, 6-9, 11-16, 18	.626	4