

**LATENT TRAIT MODELS HIGHLIGHT DEFICITS IN STUDENT UNDERSTANDING.**

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Final exams are typically set in order to assess course content knowledge and to provide evidence that students have achieved at least some minimum level of competence in the learning outcomes. Exam papers are typically archived on completion but they contain abundant information that can highlight topics where there is either adequacy or a shortfall in understanding. Final exam papers from a first-year statistics unit were randomly selected. Using item response theory models, the probability of a correct response to each of 56 question items was obtained as a function of item difficulty and student ability. Item difficulties were extracted to enable the ranking of question items from least to most difficult. Results of modelling and the impact on future teaching will be presented.