

First year physics labs in a 'suitcase'

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Over the past two decades university student demographics have considerably changed. A larger percentage of the population that now attend university come from a variety of teaching and learning cultures and a wide range of socio-economic backgrounds. Under these challenging circumstances, most of the students seem to juggle their time between work, study and family commitments to complete their degree. A survey conducted by Curtin Applied Physics in October 2000 revealed that 58% of the full time students studying physics for their first time work either part time or full time and therefore are time disadvantaged as compared to their full time non-working colleagues. In order to address these issues Physics113/114/115 units were restructured into modular format providing flexible assessment using WebCT. These units have been running for the past three years. Over these years we have found that the flexible module assessment is working well to the satisfaction of the students, but some of the students are still finding it difficult to budget their time to attend laboratories to complete the unit. The laboratory program is an essential part of these units and is thus heavily weighted and requires a considerable time input by the students. At the time when these units were modularised, flexible laboratory program could not be provided due to lack of equipment, funding and staff time constraints.

The aim of this project is to design a portable laboratory program in the form of "take home kits" so that students can effectively perform their physics labs off campus. Initially the project will prototype an experimental program by small groups of students within existing units with the aim to scaling up to full units when additional equipment funding becomes available for a full suite of portable equipment sometime in 2005. Depending on progress made with these kits the intention is for the whole unit to be offered externally. This presentation describes the portable lab program, its limitations and expected outcomes. The project is funded by the Curtin University of Technology under the Learning Effectiveness Alliance Program (LEAP) 2004.