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**Computer based learning in an undergraduate physics laboratory: interfacing and instrument control using MATLAB.**

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Summary: We describe the recent changes to the curriculum of the second year practical laboratory course in the School of Physics and Astronomy at the University of Nottingham. In particular, we describe how MATLAB has been implemented as a teaching tool and discuss both its pedagogical advantages and disadvantages in teaching undergraduate students about computer interfacing and instrument control techniques. We also discuss the motivation for converting the interfacing language that is used in the laboratory from LabView to MATLAB. We describe an example of a typical experiment the students are required to complete and we conclude by briefly assessing how the recent curriculum changes have affected both student performance and compliance.

*Classification:* R35 M55 U55 D35 D45

*Keywords:* MATLAB; computer based learning; undergraduate; physics laboratory

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