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**Modelling in engineering: advantages and difficulties.**

Haines, Christopher (ed.) et al., Mathematical modelling (ICTMA 12): Education, engineering and economics. Proceedings from the 12th international conference on the teaching of mathematical modelling and applications, London, UK, July 10–14, 2005. Chichester: Horwood (ISBN 978-1-904275-20-6/pbk). 415-423 (2007).

Summary: This article presents the results of a research whose empirical data were obtained from the use of mathematical modelling as a teaching method for Differential Integral Calculus in a Civil Engineering course. The objectives of the research were to evaluate students' learning of mathematics, analyze their competence and ability in using the model and verify the principal advantages and difficulties in establishing modelling as a teaching methodology in a regular degree course.

*Classification:* M55 I45 I55 C75 D65

*Keywords:* engineering; mathematical applications; calculus; course description; analysis of learning outcomes