

International Conference on Teaching and Learning in Higher Education (ICTLHE 2012) in conjunction with RCEE & RHED 2012

Engineering Mathematics I: A Case Study of First Year Students at Faculty of Engineering, UNIMAS

Kuryati Kipli*, Norazlina Bateni, Mohd. Shahril Osman, Norsuzailina Sutan, Annie Joseph, Onni Suhaiza Selaman

Faculty of Engineering, Universiti Malaysia Sarawak, Kota Samarahan, 94300, Sarawak, Malaysia

Abstract

The subject of mathematics is important as a prerequisite and requirement as most topics in engineering courses widely employ these fundamentals. The paper will describe an analysis based on Engineering Mathematics I course results for first year student of Semester I 2009/2010 academic year at the Faculty of Engineering, University of Malaysia Sarawak (UNIMAS). The aim is to identify the topics within Engineering Mathematics I, which may cause some difficulties for new students to understand. The performance that directly related to the students' weaknesses is obtained from the continuous assessments of the course, end of semester report analysis based on course outcomes and item analysis. The results will be used as the basis for improving the teaching and learning process for this course.

© 2012 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of Centre of Engineering Education, Universiti Teknologi Malaysia. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

Keywords: engineering mathematics; first year; course outcome; item analysis; assessments

1. Introduction

Engineering Mathematics has always been the fundamental and essential components for engineering courses. This is because mathematical skills are required and necessary for the understanding of almost every conventional engineering subject (Chirwa, 2006). At the Faculty of Engineering UNIMAS, students have to undertake four engineering mathematics courses during their undergraduate study. The four courses are Engineering Mathematics I, Engineering Mathematics II, Engineering Mathematics III and Numerical Methods and Statistics. All the courses are three credits hour course and it is core courses.

* Corresponding author. Tel: +61422-896 948
E-mail address: kkuryati@feng.unimas.my