

**LOGISTIC REGRESSION ANALYSIS OF THE PERFORMANCE IN  
MATHEMATICS OF CvSU-CAS FRESHMEN STUDENTS**

Undergraduate Thesis  
Submitted to the Faculty of  
College of Arts and Sciences  
Cavite State University  
Indang, Cavite

In partial fulfillment  
of the requirements for the degree  
Bachelor of Science in Applied Mathematics  
(with specialization in Statistics)

**MHAY S. ESPORLAS**  
April 2011



## ABSTRACT

**ESPORLAS, MHAY S. "Logistic Regression Analysis of the Performance in Mathematics of CvSU-CAS Freshmen Students".** An Undergraduate Thesis, BS Applied Mathematics (with specialization in Statistics). Cavite State University, Indang. April 2011. Thesis Adviser: Mrs. Evelyn B. Ballenas.

This study was conducted from October 2010 to March 2011 and aimed to determine the factors which affect the academic performance of Cavite State University (CvSU) freshmen students of the College of Arts and Sciences (CAS) and to predict the proportion that a student will pass or fail in Math 1 given the identified factors affecting their academic performance in Mathematics. The independent variable considered were: age, program, gender, schedule, address, civil status, study hours, religion, extracurricular activities, monthly family income, mother's occupation, father's occupation and type of secondary school where graduated.

The derived Logistic Model was:

$$\text{Logit (Y)} = -0.062 \times \text{age} + 3.038 \times \text{type of school graduated} + 0.057 \times \text{program}$$

The Logistic Regression Model showed that the independent variables age, type of secondary school where graduated and program highly affect the academic performance of CvSU-CAS freshmen students.

Considering the classification rate of the model, it can be concluded that the Logistic Regression Model was really a better model representing the factors of the academic performance of CvSU-CAS freshmen students.