

DISCRIMINANT ANALYSIS FOR ESTIMATION OF STUDENT MATHEMATICS COMPETENCY

by Samsul Hadi, Haryanto, Edy Supriyadi, Nur Kholis

ABSTRACT

The study was conducted in the Department of Electrical Engineering Education (JPTE) FT UNY, with a sample that was students who attended the Mathematics course in the Department of Electrical Engineering Education FT UNY Academic Year 2021/2022. The purpose of the study is (1) knowing the factors that can be used to estimate the graduation of the final grade of mathematics courses and (2) Making a model of discriminant equation that can estimate the graduation of the final grade of mathematics courses. In other words, Mathematics courses indirectly as a prerequisite for engineering courses on JPTE. Thus, student mathematics competence is the foundation of the science of electrical engineering. Mathematics Competencies Students can be estimated from several factors, including: Student Activity Scores In following the Mathematics (X1) course was 0.0985, assignment scores (X2) was 0.4437, Semester Examination Scores (X3) was 0.6701 and Final Examination Scores of Mathematics Course (X4) was 0.7265, student motivation (X5) was 0.0079, student interest (X6) was 0.0355, and initial ability of mathematics (X7) was 0.0919. One of the seven discriminant function models formed was: $D1 = -0.06 \text{ Present} - 0.13 \text{ Task} - 0.19 \text{ Mid Test} - 0.25 \text{ Final test} + 0.02 \text{ Motivation} - 0.03 \text{ Interest} + 0.03 \text{ Early ability}$. Based on discriminant analysis with the R program, it will be known the influential factors to estimate the competencies of students in the graduation category eight categories. It information is obtained that the value of canonical correlation (CC) = 0.9757 or 97.57%, which means that the discriminant variable (Y) or competence can be explained by the independent variable (X), which is 97.57%. Based on the results of the analysis of the discriminant function equations, the percentage accuracy of the total truth is obtained: 0.9762 or 97.62%.

Kata Kunci: *discriminant analysis, competence, estimation, mathematics*