

**OPTIMIZING STUDENT ADMISSION VIS-À-VIS AVAILABILITY OF FACULTY
AND PHYSICAL FACILITIES: AN INTEGER PROGRAMMING MODEL**

A Directed Study

Presented to the
Faculty of the Graduate School of Engineering
Pamantasan ng Lungsod ng Maynila
(*University of the City of Manila*)

In Partial Fulfillment of the Requirements for the Degree
Master of Engineering Management (MEM)
with specialization in **Systems Management**

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31 January 2004

ABSTRACT

The LP models presented in this study set the stage to optimize student admission in view of the availability of faculty and room resources in the four (4) undergraduate degree programs of the College of Science at De La Salle University - Dasmariñas.

This study aims to meet the increasing demand of students of the university as well as optimizing the utilization of available resources. The following constraints were identified: Availability of faculty hours must not be exceeded, Availability of lecture room hours must not be exceeded, and Availability of laboratory room hours must not be exceeded for one semester.

The method used in this study was patterned after the Operations Research methodology – Integer Linear Programming. The researcher comes up with an optimal solution for determining the optimum number of classes to be opened in one semester in order to reach the maximum profit subject to the currently existing resources. A mathematical model was developed that represents the substance of the problem. Substituting the computed values based on the data gathered, and running this in a QM for Windows the following results were obtained: 30 CS (X_1), 10 HUB (X_2), 8 APB (X_3), and 4 ENV (X_4) classes for each degree programs with an entirety of 52 classes and a total maximum profit of P23,801,330 for the College of Science.

Together with the detailed presentation on the above the results obtained will be described as well as final considerations and future developments.

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