STUDENTS'CLASS SCHEDULE IN SELECTED COLLEGES OF CAVITE STATE UNIVERSITY-MAIN CAMPUS FOR FIRST SEMESTER A.Y. 2013-2014 USING GRAPHS

Undergraduate Thesis
Submitted to the Faculty of the
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

MA. RODORA VALLENTE PEREZ
October 2013

ABSTRACT

PEREZ, MA. RODORA V. Students' Class Schedule in Selected Colleges of Cavite State University- Main Campus for First Semester A.Y. 2013-2014 Using Graphs. Undergraduate Thesis.Bachelor of Science in Applied Mathematics. March 2013. Cavite State University. Adviser: Engr. Orlando B. delos Reyes.

The "Students' Class Schedule in Selected Colleges of Cavite State University-Main Campus for First Semester A.Y. 2013-2014 Using Graphs" was conducted to: (1) use edge coloring and matching of graph theory in students' class schedule; (2) develop an effective model to be used for the preparation of Students' Class Schedule in Selected Colleges of Cavite State University Main Campus First Semester A.Y. 2013-2014"; and (3) apply the process of trial and error to formulate students' class schedule.

Using graphs as a model and the concept of graph theory, particularly, edge coloring and matching were considered in forming students' class schedule with the collaboration of the two studies namely: "Room Utilization Design in Selected Colleges of Cavite State University- Main Campus for First Semester A.Y. 2013-2014 Using Graphs" by Ms. Jennelyn A. Marasigan and "Faculty Workload System in Selected Colleges of Cavite State University- Main Campus for First Semester A.Y. 2013-2014 Using Graphs" by Ms. Edalyn Y. Terante.

"Room Utilization Design in Selected Colleges of Cavite State University- Main Campus for First Semester A.Y. 2013-2014 Using Graphs" by Jennylyn A. Marasigan focused on room scheduling and "Faculty Workload System in Selected Colleges of Cavite State University- Main Campus for First Semester A.Y. 2013-2014 Using Graphs" by Edalyn Y. Terante focused on faculty workload assignments which elaborated as the

mere factors in order to make this study possible. The study found out that the rooms were insufficient to accommodate the number of students and the distribution of faculty workload specified that there were excess number of faculty as well as there were insufficient number of faculty in different departments.

Results showed that using graphs as a model, edge coloring and matching can be utilized to formulate students' class schedule in selected colleges of Cavite State University- Main Campus for first semester A.Y. 2013-2014 with graphs in collaboration with the study on room utilization design and faculty workload system.

The study focused on the four colleges of Cavite State University-Main Campus namely: College of Arts and Sciences (CAS), College of Education (CEd), College of Sports, Physical Education, and Recreation (CSPEAR), and College of Economics, Management and Development Studies (CEMDS). The courses offered on these four colleges were considered to form students' class schedule. The College of Arts and Sciences (CAS) there were seven courses offered specifically: Bachelor of Arts in English; Bachelor of Arts in Mass Communications; Bachelor of Political Science; Bachelor of Science in Applied Mathematics; Bachelor of Science in Biology; Bachelor of Science in Psychology; and Bachelor of Science in Social Work. In the College of Education (CEd), there were six courses offered specifically: Bachelor of Science in Hotel and Restaurant Management; Bachelor of Science in Tourism Management; Bachelor of Science in Tourism and Recreation Management; Bachelor of Elementary Education; Bachelor of Secondary Education; and Diploma in Hotel and Restaurant Management. Under the College of Sports, Physical Education, and Recreation (CSPEAR) has two courses offered namely: Bachelor of Physical Education; and

Bachelor of Sports and Recreational Management. Meanwhile, the College of Economics, Management and Development Studies (CEMDS), there were five courses offered namely: Bachelor of Science in Accountancy; Bachelor of Science in Business Management; Bachelor of Science in Developmental Management; Bachelor of Science in Economics; and Bachelor of Science in International Studies.

The study proposes that classes be scheduled from Monday to Thursday from 7:00 in the morning to 7:00 in the evening. The existing rooms and faculty member are insufficient for the course offerings for first semester A.Y. 2013-2014.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	iii
ACKNOWLEDGMENT	iv
ABSTRACT	. v
LIST OF TABLES	X
LIST OF APPENDICES	xi
INTRODUCTION	1
Statement of the Problem	4
Significance of the Study	4
Objectives of the Study	4
Time and Place of the Study	5
Scope and Limitations	5
Definition of Terms	6
REVIEW OF RELATED LITERATURE	7
Graph Theory	7
Graph Coloring	7
Application of Edge Coloring and Matching	8
Related Studies	8

METHODOLOGY	10
Time and Place of the Study	10
Data Gathering Procedure	10
Application of Edge Coloring and Matching	10
RESULTS AND DISCUSSION	12
SUMMARY, CONCLUSION AND RECOMMENDATION	21
Summary	21
Conclusion	22
Recommendation	22
REFERENCES	. 23
APPENDICES	24