

**DESIGN AND CONSTRUCTION OF A LOW-COST
DC MOTOR TRAINER**

THESIS

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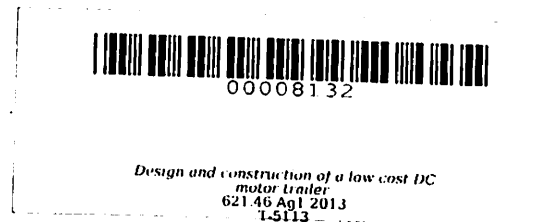
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DESIGN AND CONSTRUCTION OF A LOW-COST DC MOTOR TRAINER

Undergraduate Thesis
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ABSTRACT

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The study, Design and Construction of a Low-Cost DC Motor Trainer, was conducted at Cavite State University Main Campus, Indang Cavite from October 2012 to October 2013. The main objective of the project is to design and construct a low cost DC motor training system. The study was conducted to prove that the low-cost DC motor trainer can enhance the knowledge of the students about the different types and different characteristics of a DC motor.

The trainer has three modules, control unit, motor panel and driving unit. The control unit was used to operate and measure the parameters of the driving unit. The motor panel was used to convert the different poles of the motor. The driving unit was used to test the loading parameters of the trainer.

The design project was setup and evaluated at the Department of Industrial Engineering of College of Engineering and Information Technology by four electrical engineering faculty members and 30 electrical engineering students to determine the user interaction, safety features, knowledge gain and accuracy and efficiency of the trainer.

The total cost of the project was PhP25,275.00.

TABLE OF CONTENTS

	Page
BIOGRAPHICAL DATA	i
ACKNOWLEDGMENT	ii
ABSTRACT	iv
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF APPENDICES	x
LIST OF APPENDIX FIGURES	xi
INTRODUCTION	1
Statement of the Problem	2
Objectives of the Study	2
Importance of the Study	3
Time and Place of the Study	3
Scope and Limitations of the Study	4
Operational Definition of Terms	5
REVIEW OF RELATED LITERATURE	6
DC Motor Theory	6
The DC Motor	6
Motor Circuit Analysis Concept and Principle	7
Managing the Complete Motor System	8
Utilization and Application of DC Motor	9

MATERIALS AND METHODS.	10
Materials	10
Methods	11
Design and construction of the main frame of the DC motor trainer	11
Design and construction of the modules of the DC motor trainer	11
Assembly of the modules for the DC motor trainer	12
Preparing the manual of operation for DC motor trainer	12
Preparing DC motor trainer laboratory activities	12
Testing and evaluating the performance of DC motor trainer	12
Cost computation of DC motor trainer	13
RESULTS AND DISCUSSION	14
DC Motor Trainer Overview	14
Construction of the DC Motor Trainer	15
Manual of Operation for DC Motor Trainer	22
Laboratory Activities for DC Motor Trainer	22
Results of Testing and Evaluation of the Design	22
Statistical Analysis	24
Respondent Assessment	24
Cost Computation	31
SUMMARY, CONCLUSION AND RECOMMENDATION	34
Summary	34
Conclusion	35
Recommendation	35

REFERENCE 36

APPENDICES 37

LIST OF TABLES

Table		Page
1	Rating scale used in the evaluation of the performance of the DC motor trainer	25
2	Perception of the respondents on the trainer based on user interaction . . .	26
3	Perception of the respondents on the trainer based on safety features	27
4	Perception of the respondents on the trainer based on knowledge gain . . .	27
5	Perception of the respondents on the trainer based on accuracy and efficiency	28
6	Mean scores for motor trainer properties	29
7	Distribution of the participant's perception on the laboratory manual	29
8	Prices of materials in the DC motor trainer	32

LIST OF FIGURES

Figure		Page
1	The DC motor trainer	14
2	The scale of construction for the DC motor trainer	15
3	The schematic diagram of control unit	16
4	The control unit of the DC motor trainer	17
5	The schematic diagram of measuring unit	17
6	The measuring unit	18
7	The schematic diagram of switch	19
8	The selector switch	19
9	The fuse holder with fuse	20
10	The schematic diagram of motor panel	21
11	The motor panel	21
12	The driving unit	22
13	The Evaluation of DC motor trainer	23

LIST OF APPENDICES

Appendix		Page
A	Figures	38
B	Manual of Operation	45
C	Laboratory Experiment	53
D	Evaluation Form	96
E	Letter of Request Forms	100

LIST OF APPENDIX FIGURES

Figure		Page
1	Construction of the main frame and control unit	39
2	Construction of motor plate	39
3	Installation of motor plate and control panel to the desk	40
4	Installation of control unit to the main frame	40
5	Testing the functionality of the DC motor trainer	41
6	Presentation of the motor trainer	41
7	Laboratory manual inspection	42
8	Practical application of laboratory experiments	42
9	Conversion of poles of the DC motor	43
10	Feedback and recommendations	43
11	Students' evaluation on the DC motor trainer	44

DESIGN AND CONSTRUCTION OF A LOW-COST DC MOTOR TRAINER

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INTRODUCTION

By means of education only one's potential can be used to a maximum extent. Theory and research suggest that meaningful learning is possible in the laboratory if all students are provided with activities and opportunities to manipulate equipment and materials while working cooperatively with peers in an environment in which they are free to pursue solutions to problems that interest them. For students to acquire the manual and mental skills associated with learning physics, it is essential that they be fully engage in laboratory activities with sufficient equipment and laboratory stations for groups containing two or three students. To attain these objectives, universities offering technical courses should be equipped with the necessary facilities, manpower, building tools and equipment necessary to train the students before entering the gainful occupation.