DEVELOPMENT OF AN ELECTRICAL INSTALLATION AND MAINTENANCE TRAINER

Design Project

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Indang, Cavite

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DEVELOPMENT OF AN ELECTRICAL INSTALLATION AND MAINTENANCE TRAINER

Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
Cavite State University
Indang, Cavite

In partial fulfilment
of the requirements for the degree
Bachelor of Industrial Technology
Major in Electrical Technology

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ABSTRACT

DIGO JR. ROMEO V. and **UY ROLAND ZYREL O. Development of an Electrical Installation And Maintenance Trainer.** Undergraduate Design Project. Bachelor of Industrial Technology Major in Electrical Technology. Cavite State University, Indang, Cavite. May, 2017. Adviser: Mr. Garry M. Cahibaybayan.

The study was conducted to help the Electrical student easy to install actual activity in the electrical laboratory and also could help the trainers who are taking up national certificate (NCII) and other related standardization and assessment tests. The Development of an Electrical installation and maintenance trainer was tested and evaluated in terms of efficiency, workability, economy and safety.

The study was conducted from September 2016 to March 2017 at the Department of Industrial Engineering and Technology Building, Cavite State University, Indang, Cavite. The main objective of the study is to develop electrical Installation and maintenance trainer specifically, this study aimed to: 1. Design an electrical installation and maintenance trainer; 2. Develop useful electrical installation and maintenance trainer for students who will take NCII Assessment; 3 Test the effectiveness of the module and trainer; 4. Conduct cost analysis of the overall materials and equipment needed;

After construction and installation the project was evaluated beside the Department of Industrial Engineering and Technology (DIET) building, CvSU, Indang, Cavite. It was composed of of rectangular tube, plywood and flat bar. The components are mounted of frame which is 1 inch x 2 inches rectangular tube that is strongly supported by # 1 flat bars. attached the following materials such as; meter base, panel board, circuit breaker, metal conduit and plastic conduit, three way switches, convenience outlet, A.C.U., utility box, junction box, receptacles and bulb. The design project is

provided with tools including pliers (long nose and flat), screw driver, electrical tape, side cutter helmet and gloves for the safety of the trainee. The project was installed in the DIET Electrical Laboratory and constructing for the improvement of an instructional wiring board with the proper installation of three way connection, convenience outlet, air conditioning unit and etc. provided with tools and electrical equipment. . The social acceptability of the designed project was evaluated in accordance to its functionality, workability, durability and safety. The total mean of the entire criteria was 4.87, which is interpreted as "Outstanding". The total cost of the study amounted to P15,442.00.

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An undergraduate design project submitted to the faculty of the Department of Industrial Engineering and Technology, College of Engineering and Information Technology, Cavite State University, Indang, Cavite. In partial fulfilment of the requirements for the degree of Bachelor of Industrial Technology Major in Electrical Technology with contribution No. CEIT. -2016-17-2-04.Prepared under the supervision of Mr. Garry M. Cahibaybayan

INTRODUCTION

It is vital for students taking up Electrical Technology to enhance and train their skills in the field of electrical building wiring installation. To help them perform this activity, a productive wiring installation board is important. This present study aimed to assist incoming batch of students taking up the same course to be more trained and knowledgeable to perform this actual activity. With the development of an instructional trainer, the researchers sought to provide instruction about tools, safety gears, and other symbols necessary in the conduct of wiring installation.

This study could help students who are taking up National Certificate (NCII) and other related standardization and assessment tests. Electrical Installation and Maintenance (NCII) qualification consists of competencies that a person must achieve to enable him/her to install and maintain electrical wiring, lighting and related equipment and systems where the voltage does not exceed 600 volts in residential houses/building.