

**DESIGN AND CONSTRUCTION OF A THREE-PHASE POWER SYSTEM
TRAINER FOR CAVITE STATE UNIVERSITY**

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

In partial fulfillment
of the requirements for the degree
Bachelor of Science in Electrical Engineering

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ABSTRACT

ARCEO, VICTOR FRANCIS M. and PAMITTAN, ANDREW JASON A.,
Design and Construction of a Three-phase Power System Trainer for Cavite State University. Undergraduate Design Project. Bachelor of Science in Electrical Engineering. Cavite State University, Indang, Cavite. March 2014. Adviser: Engr. Ronald P. Peña.

The main objective of the project was to design and to construct a three-phase power system trainer for Cavite State University. Specifically, it aimed to fabricate the frame for the three-phase trainer. The connection of the conversion of the delta source to different load configurations such as Wye load and Delta load was done by varying the connections on the transformers. Complete with different loads such as resistive, capacitive, and inductive loads, the trainer was built along with a laboratory manual and a total of six (6) laboratory experiments for the students to perform. The test and the evaluation of the design project were done by the execution of laboratory experiments that were developed. The cost computation of the study was also conducted.

The trainer consisted of three step-down transformers powered up by a three-phase delta source. The three step-down transformers were responsible for the conversion of the source to wye load and delta load. Furthermore, the trainer was reliable despite of its cheap fabrication and construction price.

The testing and the evaluation of the project were done at the first floor of the Department of Industrial Engineering and Technology. Thirty respondents determined the accuracy, consistency, efficiency, and reliability of the trainer. The thesis adviser, technical critic, faculty members of DCEE and DIET tested its functionality.

The total cost of the design project was P17,554.00.