ONLINE COMPUTER-AIDED INSTRUCTION IN PHYSICS 2: ELECTRICITY AND MAGNETISM WITH INTRODUCTION TO OPTICS FOR DE LA SALLE UNIVERSITY – DASMARIÑAS

An Undergraduate Research Proposal

Presented to the Computer Studies Department

College of Science

De La Salle University – Dasmariñas

In Partial Fulfillment of the Requirements for the

Degree Bachelor of Science in

Information Technology

Calanog, Carl Dominick B.

Elijay, Jeph Ace Clarvin T.

Sarmiento, Ruel P.

Abstract

The Online Computer Aided Instruction in Physics 2: Electromagnetism with Introduction to Optics was proposed as a supplement to the teaching methods of professors in De Lasalle University – Dasmarinas so that the students will have an alternative learning method to their traditional learning approaches. The system will be built on World Wide Web technologies using development tools and will be operated entirely online and is semi-automated to provide teachers and students alike with easy access to lessons, quizzes and grades.

In addition, the proponents will develop a useful and proficient system for De Lasalle University – Dasmarinas. There will be automation of computing grades, rendering premade lessons which will include documents in PDF file, videos, flash and interactive games involving the subject. The system will also provide an easy access to lessons which can be downloaded or printed, tables of students' status and performance.

TABLE OF CONTENTS

Acknowledgement		iv
Abstract		v
CHAPTER 1 - Introduction		
1.1 Background of the Study		1
1.2 Statement of the Research Problem		4
1.3 Research Objectives		8
1.4 Significance of the Study		9
1.5 Conceptual framework		10
1.6 Scope and Limitations	11	
CHAPTER 2 - Review of Related Literature		
2.1 Foreign Literature		13
2.2 Local Literature		25
CHAPTER 3 - Methodology		
3.1 The V- Model		
3.1.1 Requirement Analysis		34
3.1.2 System Design		35
3.1.3 Program Design		35
3.1.4 Coding		36
3.1.5 Unit integration and testing		36
3.1.6 System testing		37
3.1.7 Acceptance testing		37

3.1.8 Operation and maintenance	38
CHAPTER 4 - Presentation of Results/ Findings	40
CHAPTER 5 - Conclusion and Recommendations	52

Bibliography

LIST OF APPENDICES

APPENDIX A: RELEVANT SOURCE CODE

APPENDIX B: SURVEY FORM

APPENDIX C: SCREEN DESIGN

APPENDIX D: CURRICULUM VITAE