



L'excellence à la portée de tous !

Un ministère de Calvary Chapel-Port-au-Prince

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Syllabus

Course Title

BOOLEAN ALGEBRA

I. Course Objectives

The objective of this course is to help the student understand the concepts of Boolean Algebra, the mathematical foundation of logic circuits and computers. At the end of this course, the learner will be able to:

- Know the basic operations of Boolean algebra using their different properties.
- Understand the operation of logic gates.
- Apply the entire set of Boolean algebra theorems.
- Simplify logical functions using algebraic and graphical methods.

II. Prerequisites

University-level Algebra

III. Materials and Books

Online materials or PDF format.

IV. Course Content

- Components of Boolean Algebra
- Variables, Operators and Operations, Values (True/False)
- Concept of Boolean Logical Function
- Basic Rules of Boolean Algebra
- Postulates, Theorems, Complementation Functions, Logical Product, etc.
- Laws/Rules: Commutativity, Associativity, Distributivity
- De Morgan's Theorem
- Canonical Forms
- Simplification of Logical Functions – Minimization of Logical Functions
- Karnaugh Map
- Reliability, Maintenance, and Quality of Electrical Systems.

Course Regulations

Students must be present at all times unless there is an issue addressed by the administration, and for which the justification is accepted by the administration of the university. Assignments must be submitted on the day set by the professor. Any incomplete or unsubmitted assignments will receive a grade of 0. Late submissions will not be accepted.

The final grade is a combination of:

1. Homework and Quiz 30%
2. Tests 70%