| Course Title and Code | COE122 – Logic Design Lab |
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## I.  Course Identification and General Information:

| Course Title | Logic Design Lab | Course Code | COE122 | Co-requisite | COE121 |
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| Department | Computer Engineering | Course Level | 4 | Credit Hours | 1 (0+1) |

## II.  Course Description/Topics: The following course topics will be covered.

- Basic logic functions (AND/NAND, OR/NOR)
- Exclusive OR/NOR gate functions
- Transfer characteristics of gates
- Flip-flops (set/reset, D type)
- Tri-state buffer output control
- Digital system modeling using Verilog

## III.  Course Outcomes: Summary of the main learning outcomes for students enrolled in the course.

- Identify the input/output relationships of basic logic gates
- Ability to connect basic gates as building blocks to create larger circuits
- Identify the difference of transfer characteristics of real gates with the ideal gates
- Work with various types of flip-flops
- Model and simulate a digital system using a hardware description language, such as VHDL or Verilog

## IV.  Required Text:

- Digital Design and Computer Architecture, 2/e, David Money Harris and Sarah L. Harris, Morgan Kaufmann, MA 02451, USA, 2013, ISBN: 978-0-12-394424-5

## V.  References:

- Lab-Volt Digital Logic Fundamentals, Student Workbook, 4/e, Lab-Volt Systems Inc., 2003. ISBN 0-86657-210-4