Department: Electrical and Computer Engineering

**EEL 3705L: Digital Logic Laboratory**

**Curriculum Designation:** Required course for EE and CpE majors.

**Course (Catalog) Description:** Laboratory in support of EEL 3705.

**Prerequisite:** COP3014
**Corequisite:** EEL3705

**Textbooks/Required Material:**

**Course Objectives:**
1. Maintain a lab notebook and describe the results in a predefined format.
2. Derive digital circuits from Boolean equations and implement the circuit design using a programmable logic device.
3. Analyze and interpret data obtained from a digital logic circuit.
4. Design, simulate, and implement a combinational logic circuit using modern computer-aided design software and programmable logic devices.
5. Design, simulate, and implement a synchronous sequential digital logic circuit using computer-aided design software and programmable logic devices.

**Topics covered:**
1. Basic digital logic gates
2. Boolean algebra and logic gates
3. Introduction to CAD software for logic design
4. Combinatorial logic design laboratories
5. Sequential circuit/finite state machine design laboratories
6. Design Project

**Class Schedule:** One 165 minute lab per week (1 credit hour).

**Subject Area:** Engineering

**Significant Design:** Yes

**Relationship to Assessed ABET Student Outcomes:** None

**Last Updated by:** R.J. Perry **Date:** 4/30/2021