

## ECE238 laboratory manual – University of New Mexico

Name:.....

Date:.....

Section:.....

### Introduction to Discrete Digital Logic

Note: In this first lab, the laboratory manual will also be your worksheet. Follow the steps, fill in the blanks and turn it in!

---

### Lab Task: A function with four variables

---

You are to simplify the function  $F = A'B'D + BC'D + A'BC + ACD$  and design a circuit for the simplified function using any 7400 logic you wish. You must:

1. Draw the function truth table.
2. Draw the function K-map and simplify it.
3. Draw a logic diagram of the function implementation.
4. Draw a layout diagram of the implementation.
5. Implement this circuit on the breadboard. Ask your TA to check your implementation and sign your report.