

The midterm will cover all of the material from the beginning of the semester to the end of the LAM lab. You should know

1. how all of the basic logic gates work.
2. how to draw and recognize all of the symbols for logic gates, flip-flops, timing circuits, and a photogate.
3. how to draw a truth table.
4. how to draw a labeled, logic circuit diagram (not a pin assignment diagram).
5. how a flip-flop works.
6. how to draw a timing diagram.
7. how to convert base 10 to binary and binary to base 10.
8. how to convert base 10 to hexadecimal and hexadecimal to base 10.
9. how to use the max/min error analysis method.
10. how to display a result using correct significant figures.
11. how to graph data with its error by hand.
12. how to determine the equation of a linear fit.
13. all of the theory involved in the linear accelerated motion experiment.
This includes mathematical derivation to include derivatives.
14. all of the detailed steps in the linear accelerated motion lab. You should know why you did each step.

15. the answers to all of the questions asked in the linear accelerated motion lab.

16. how to compare theory and experimental results using detailed error analysis.

Note: This list might seem like a lot of material, but if you step back and take a look at the items on this list you will see that you know how to do most of this off the top of your head.