The laboratory exercises are a very important component of our course. By doing the laboratory exercises, you will gain a deeper understanding of both the basic operations of CMOS circuits and the design process for CMOS VLSI systems. Also, you will develop a better understanding of some specific digital circuits like pass-gates, dynamic-gates, flip-flops and registers. In these exercises, we hope you will:

1. Learn new information, skills, and tools;
2. Use those skills to create, test, and experiment on new designs;
3. Analyze and understand the results of the experiments;
4. Draw some conclusions from your analysis;
5. Write up a report with your results, analysis, and conclusions.

Lab Report Requirements
Writing lab reports is one of the most important methods for people to review their understanding of experiments, record their work, and communicate their results. The ability to write a good laboratory report is a valuable communication skill because it also can be the basis for technical papers on original scientific research. In this class, the laboratory reports are a very important tool we use to evaluate your performance. You should follow the outline below for your reports:

1. Start with a basic and brief introduction that gives the background for the lab content and summarizes what you have accomplished in the lab exercise. You can also add a brief review about related course content.
2. There will be several assignments in each lab exercise. Please arrange the main body of your lab report as several sections, one for each lab assignment.
3. Each section should be written as a narrative of the work completed in the lab, not a reproduction of the procedures listed in the lab material. For example, you could present the basic mechanisms of some circuits, and explain the schematic you designed.
4. Record your lab results. Materials like screen shots of circuits, waveforms, layouts and test reports (such as LVS and DVS) should be included in the report to document your laboratory work.
5. Analyze the laboratory experiment results. For example, you can present descriptions of the methods used and details of your calculated results as well as necessary equations and calculations.
6. Finally, present a discussion and draw some conclusions about what you did and what you learned. (You can write this part separately in each assignment section).