Digital Circuit Design Lab

ECE 435 – Section 201

Fall 2009

Lab Location: ENGR 5305

Lab Hours: Tuesday, 1:30 pm - 4:20 pm

Lab instructor: Venkata Amirineni

Email: vamirin1 [at] gmu.edu

Office Location: ENGR 5305

Office Hours: Wednesdays, 1:30 pm - 5:30 pm

Lab Policies:

• The George Mason University Honor Code applies to all aspects of ECE 435.

• You must complete and present all the experiments to pass the course.

• Attendance at all labs is mandatory.

• Read and follow all the laboratory rules and tips mentioned on pages i-v of the lab manual.

• Each student is required to do the advance preparation before coming to the lab.

• You must present your working experiment on the assigned date (or within 2 week during office hours with prior permission from the instructor) for each lab.

• Only the ECE 435 TA is allowed to check your experiments for laboratory credit and signature.

• Lab reports must be submitted by each partner in print within 1 week of the assigned date for each experiment at the beginning of the lab period.

• Late submission of a report will reduce its grade by 15% per week.
Lab Grading:

Attendance and demonstration of all labs in appropriate time is a big determining factor in your final grades. If you have passed all your experiment demonstrations, your lab grade will be determined as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Demonstration &amp; Attendance</td>
<td>30 %</td>
</tr>
<tr>
<td>Lab Reports</td>
<td>20 %</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>25 %</td>
</tr>
<tr>
<td>Final Exam</td>
<td>25 %</td>
</tr>
</tbody>
</table>

Tentative Calendar:

09/01/09 Introduction - Make sure you purchase your Lab Kits ASAP.

09/08/09 Experiment # 1 – Si Diode (Study of I-V Characteristics and Switching)

09/15/09 Experiment # 2 – BJT (Study of Electrical Parameters)

09/15/09 Last day to drop with no tuition penalty

09/22/09 Experiment # 3 – Voltage Transfer Characteristics of a simple BJT Inverter

09/22/09 Last day to drop with a 33% tuition penalty

09/29/09 Experiment # 4 – MOSFET (Study of Electrical Parameters)

10/02/09 Last day to drop

10/06/09 Experiment # 5 – MOSFET Inverter (Study of Voltage Transfer Characteristics)

10/13/09 NO CLASS – Monday's class meet Tuesday

10/20/09 Midterm Exam

10/27/09 Experiment # 6 – MOS Inverters (Power Consumption & Switching Characteristics)

11/03/09 Experiment # 7 – Commercial CMOS and TTL Converters

11/10/09 Experiment # 8 – Simple Inverter Oscillators

11/17/09 Experiment # 9 – Monostable (One-shot) and Astable Operation of LM555

11/24/09 Experiment # 10 – Analysis and Design of an Emitter Coupled Schmitt Trigger

12/01/09 TBD

12/08/09 Final Exam