EE 692 – Digital Arithmetic  Spring Semester 2007

Catalog Data:  Advanced Topics in Electrical Engineering.  Prerequisite: Permission of Instructor. Lecture course or seminar on a topic of special interest, as determined by the instructor.


Coordinator:  Nian Zhang, Assistant Professor of Electrical and Computer Engineering Room EP 315, Phone 394-2452. Office Hours are 4:00-5:00 Mon/Wed/Fri and by appointment.

Lecture:  Monday/Wednesday/Friday  1:00-1:50 p.m.  EP 251A

Objectives:  The primary objective of this course is to educate students so that they understand the fundamental operation and behavior of neural network and fuzzy logic systems, have a firm grasp of analog and digital computational methods and building blocks, and can apply this knowledge foundation to design a neural and/or fuzzy hardware system.


Computer Use:  A variety of computer tools will potentially be used including Xilinx ISE, Mentor Graphics, MATLAB, and XFuzzy.

Design Project:  There will be a large design project. A final report detailing the design work will be required. The report must be “complete”. Complete means that another instructor or student in another semester could completely reconstruct your design and duplicate your results based solely on the information contained in your report. Thus you should have described the goals or design objectives, detailed your design procedure (logic equations, circuit schematics, software algorithms, etc.), detailed your testing and verification procedures (including sample results), reported any errors or anomalies or design changes, and discussed conclusions. The report should NOT just be a collection of figures and tables, but be a flowing dialogue.
Grading: The following grading scheme is tentatively planned. Adjustments may be made in the total number of points depending on the actual amount of material covered.

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Percentage Range</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 1-Hour Exams</td>
<td>200</td>
<td>90-100%</td>
<td>A</td>
</tr>
<tr>
<td>Homework</td>
<td>150</td>
<td>80-89%</td>
<td>B</td>
</tr>
<tr>
<td>Final Project</td>
<td>100</td>
<td>70-79%</td>
<td>C</td>
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<tr>
<td></td>
<td></td>
<td>60-69%</td>
<td>D</td>
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<tr>
<td></td>
<td></td>
<td>0-59%</td>
<td>F</td>
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Your exam average must be 60% or better in order to pass the class.

Late Policy: Assignments which are not turned in by the announced deadline will be assessed a -10% per day late penalty (not counting weekends and holidays). The final project must be completed to pass the course. The grade F will be assigned if the final project is not completed. The grade I will NOT be used.

Integrity Policy: You are expected to do your own work (as an individual or as a team as the case may be); however, one can learn by consulting with others. If you receive help from others on assignments, acknowledge them in your memorandum reports. Understand that there is a significant difference between consulting or asking someone a question versus outright copying or plagiarism. If individuals or teams turn in assignments that are clearly not their own work, all parties involved can expect to receive a minimum penalty of no credit for that assignment. More severe penalties are possible including failure of the course.

Submission: Assignments can be turned in during class directly to me. They can also be submitted to me personally in my office. If you are unable to locate me for some reason, please submit the assignment in to the department secretary and ask her to date stamp the assignment and place it in my mailbox. I will NOT accept assignments slipped under my office door, nor will I accept assignments in my mailbox that have not been date stamped.

ADA Policy: Students with special needs or requiring special accommodations should contact the instructor, Nian Zhang at 394-2452 and/or the campus ADA coordinator, Jolie McCoy at 394-1924 at the earliest opportunity.

Freedom in Learning Statement: Students are responsible for learning the content of any course of study in which they are enrolled. Under Board of Regents and University policy, student academic performance shall be evaluated solely on an academic basis and students should be free to take reasoned exception to the data or views offered in any course of study. Students who believe that an academic evaluation is unrelated to academic standards but is related instead to judgment of their personal opinion or conduct should contact the dean of the college which offers the class to initiate a review of the evaluation.

Updated by: Dr. Nian Zhang, January 15, 2007.