EL424: Laboratory in VLSI

Lectures: Every Tue, 0830-0925, CEP 107
Labs: Every Wed, 1400-1800, Lab 205

Prof (Dr) Biswajit Mishra
biswajit_mishra@daiict.ac.in
Office: FB2, 2112
Office Hours: TBD
(079) 3051-0561

Course Description: The motivation for the course is to emphasize more on the practical aspect of VLSI design by using the concepts already taught in previous VLSI courses.

Prerequisite(s): Digital System Architecture, Introduction to VLSI.

Credit Hours: 1-0-4-3

Text(s): Handouts, Tutorials, Papers, Internet and Digital Integrated Circuits, 2nd Edition (Rabaey, Chandrakasan and Nikolic);

Distribution: Coursework – 100%.
A Description of the grading process is discussed in the accompanying document.

Grade Distribution:
- Assignment 1 10%
- Assignment 2 20%
- Assignment 3 20%
- Assignment 4 30%
- Assignment 5 20%

Grading:
Course Objectives:
At the completion of this course, students will be able to:

1. Design and implement CMOS analog and digital circuits
2. Analyze circuits in Spice, C and matlab
3. Use specific technology library files
4. appreciate the use of simulation tools in spice, matlab and cadence for design decisions

Knowledge and Understanding:
Having successfully completed the module, you will be able to demonstrate knowledge and understanding of:

1. Cadence icfb, schematic Design
2. Digital Simulation in modelsim
3. Device/circuit simulations in spice

**Intellectual Skills:**
Having successfully completed the module, you will be able to:

1. Understanding and preparing datasheets
2. EDA tools
3. Understanding of Digital and Analog Simulation

**Extra Help:** Do not hesitate to come to my office during office hours or by appointment to discuss a homework problem or any aspect of the course.

**Attendance Policy:** Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee’s responsibility to get all missing notes or materials.

**Important Dates:**

- **Assign 1:** Assignment Given/ Handin Date .............. Jul 30/Aug 09
- **Assign 2:** Assignment Given/ Handin Date ............. Aug 06/Aug 16
- **Assign 3:** Assignment Given/ Handin Date ............. Aug 13/Aug 30
- **Assign 4:** Assignment Given/ Handin Date ............. Aug 27/Sep 13
- **Assign 5:** Assignment Given/ Handin Date ..........Mid Sep/Late Oct
**Tentative Course Outline:**
The weekly coverage might change as it depends on the progress of the class. However, you must keep up with the reading assignments if given.

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