- Your Name and Batch: Shreyas Nadkarni (2019-24 DD)
- Course Offered In: Spring 2022

- Instructors: Prof. Madhav Desai

- Prerequisites: None (except the basic EE 224), even Sophies were allowed. If you have done EE 677 before this, the course will be easy for you since there is some overlap between the two

- Difficulty: Easy compared to other EE courses.

- Course Content: Boolean algebra, VLSI Design flow, formal verification methods, BDDs and SAT solvers (including some software packages like CMU BDD and MiniSAT), equivalence checking, existential/universal quantification operations, testing of circuits (single stuck-at fault model), sequential circuit testing. Basically techniques which you can make a computer use in order to test and verify the validity and correctness of a digital design.

- Feedback on Lectures: The Professor taught using "Xournal" and annotating. Taking notes was very helpful. Sometimes the lectures got monotonous but the Professor explained the content and cleared doubts well. Almost all lectures were online apart from the last 2-3 which were in hybrid mode. A lot of time was spent on the basic Boolean algebra axioms at the beginning whereas at the end some topics had to be skipped because of lack of time.

- Feedback on Evaluations: Only two exams: Midsem, Endsem, and three assignments (one was a pen-and-paper assignment on Boolean algebra while other two involved the BDD and SAT packages and we're simulation based). Overall evaluation was very easy. Exams were open notes.

- Study Material and References: The Professor uploaded his Xournal notes and some additional papers on the topics on Moodle. Apart from that 2-3 reference books were mentioned but were not necessary. The lecture material was sufficient for the exams.

- Follow-up Courses: No specific follow ups but this course covers some important topics in VLSI, so other courses like:
    - EE 677 (Foundations of VLSI CAD) - Autumn,
    - EE 671 (VLSI Design) - Autumn,
    - EE 789 (Algorithmic Design of Digital Systems - same Prof) - Autumn

  are good in combination with this course, for gaining knowledge of VLSI.

- Final Takeaways: The BDD and SAT methods taught in the course are very important and the Professor often describes how they are used in industry. Apart from that, the papers which the Prof uploads are good for someone who is highly interested in this area of research.