



VIT-AP
UNIVERSITY

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Simulation, Modeling and Application of Advanced Semiconductor Devices

(A Value Added Course)

offered by
School of Electronics Engineering (SENSE)

Simulation and physics-based modeling of the various electrical parameters of semiconductor devices is an important area of study and research, which leads to the development of semiconductor technology. Analytical modeling of various parameters provides the physical understanding of the device characteristics, and TCAD-based simulation helps us to get first-hand information about the behaviour of any proposed device without going through an expensive experimentation and fabrication, and complex mathematical modeling. The main objective of this course is to introduce various TCAD tools (Synopsys Sentaurus, Visual and Silvaco ATLAS TCAD tools) to get the students acquainted with the simulation techniques used for the performance analysis of advanced semiconductor devices along with analytical modeling of various electrical parameters. Moreover, Verilog-A will also be introduced which is used to verify the compact model of semiconductor devices along with circuit simulation using Cadence tool. This course includes the practical sessions as well.



Course Benefits :-

- Students will learn many important TCAD tools widely being used in the field of semiconductor devices.
- They will be able to model any parameter of various advanced semiconductor devices.
- They will learn about the verification of compact models using Verilog-A and circuit simulation using cadence tools.
- It will be very helpful while going for a capstone project, senior design project, higher studies, research and getting a job in semiconductor and VLSI based industries.

EVERY MONDAY 09.00 AM to 11.00 AM

Commence from 14-02-2022.

Certificate after completion of course