

Job Description for Adjunct Professors

The Department of Electrical and Computer Engineering at California State University, Northridge invites applications for an adjunct professor position to teach a graduate-level course, ECE 624, in the fall 2024 semester. Please note that all part-time faculty appointments are temporary and do not confer academic rank. The final determination of part-time teaching assignments is contingent upon student enrollment figures and funding. Detailed course information is provided below for reference.

Course Title: Digital Systems Design Automation and VHDL Modeling

Course Description: Automated design techniques, verification of digital systems. Problems related to physical packaging, partitioning, assignment, placement, and interconnection (Routing) of elements of digital circuits.

Course Objectives: After completing this course, the students should be able to:

1. Understand concept of design optimization algorithms and their application to physical design automation.
2. Use the appropriate Heuristic methods for various phases of design lay out such as routing, partitioning and placement.
3. Understand the latest design techniques as practiced in the industry for design lay out optimization.
4. Understand the trade offs among various design styles given a set of design constraints in physical design automation. Understand performance/area tradeoffs in a chip design process.
5. Use of Genetic algorithm and simulated annealing algorithm for partitioning, placement and routing problem.
6. Understand the impacts of Nanotechnology on physical design automation.
7. Understand implementation issues for digital design automation including optimization techniques.
8. Understand the relationship between good design practices and the testability of digital systems

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