



Introduction

*Design and Design Automation
in the Undergraduate Curriculum*

Why Design?

- ◆ *Make Principles Concrete*
- ◆ *Reinforce Lecture Material*
- ◆ *Integrate Isolated Lecture Topics*
- ◆ *Enhance Students' "Marketability"*

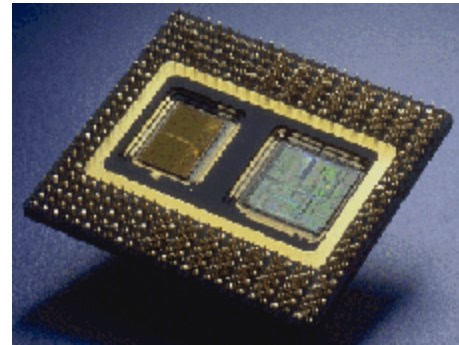
Integrating Design

- ♦ *In Hardware, Simulation is Essential*
- ♦ *Some Re-Orientation of Course Material is Required*
- ♦ *In Some Cases, Investment in Design Automation Software is Required*
- ♦ *Some New Courses Should be Offered*

Essential Areas in Hardware

- ◆ *Logic Design*
- ◆ *Computer Architecture*
- ◆ *Digital System Design*
- ◆ *FPGA Design*
- ◆ *CMOS Design*
- ◆ *PCB Design*
- ◆ *Design Automation*

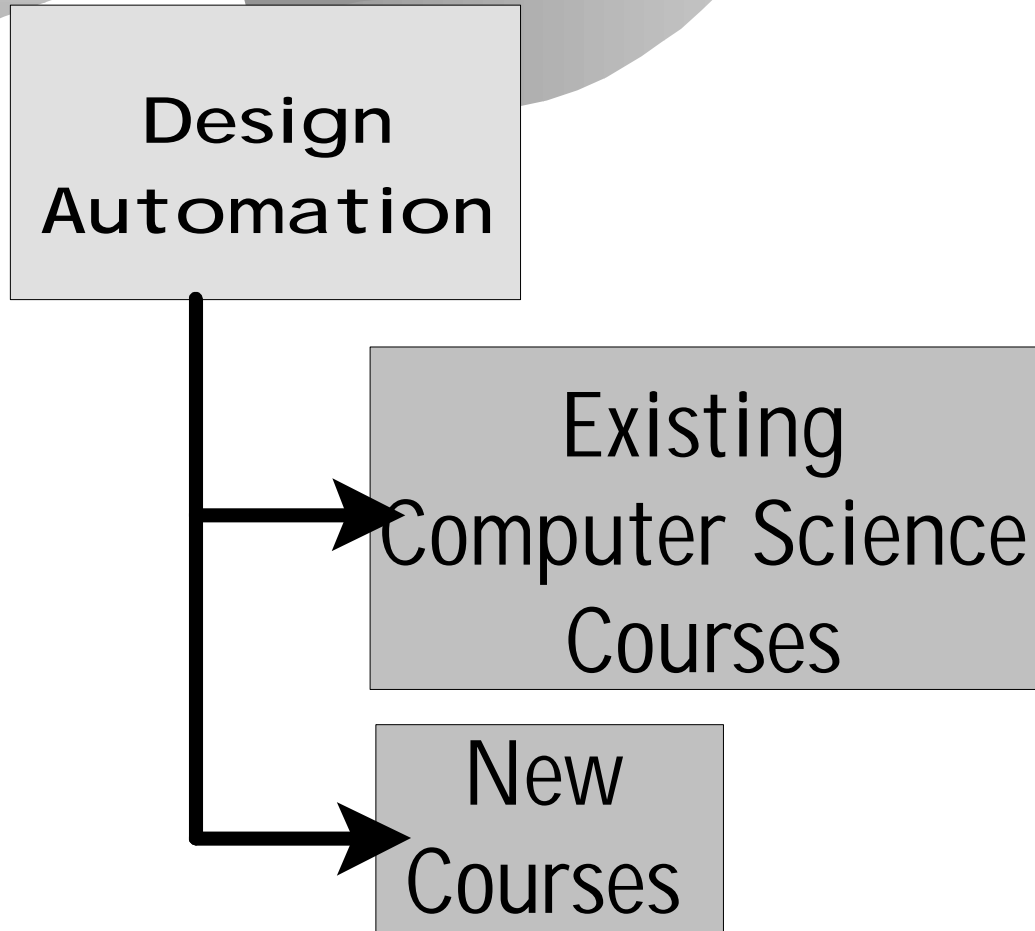
Why Design Automation?



Because ...

- ✦ *Design Automation is the Engineer's "Tools of the Trade"*
- ✦ *Design Automation is a Mature Area with Many Well-Defined Principles*
- ✦ *Design Automation is a Fruitful Area for Computer Scientists*
- ✦ *Can Open New Doors for Computer Science Graduates*

Relationships



The Rest of the Week

♦ *Today*

- *How to put together a DA Course*
- *Introduction to Design Automation*
- *Fun with FHDL*

♦ *Tuesday*

- *Intro to Visual Basic Programming*
- *Fun with Visual Basic*
- *Logic Design and Computer Architecture*
- *Laboratory Exercises*

The Rest of the Rest

♦ *Wednesday*

- How to Design an FPGA Course
- Digital Design Using FPGAs
- XILINX Tools & Practice I
- XILINX Tools & Practice II

♦ *Thursday*

- XILINX Tools & Practice III
- How to put together a CMOS VLSI Course
- Introduction to Design Tools
- Lab with Tools

Break Time!

