APPLICATION FORM

Course Title: Custom IC Design Course

Salutation: Mr. Ms. Mrs. Dr. Prof.

Last name: .......................................................... Middle Initial ..............

First name: ........................................................................

Nationality ........................................................................

Organization .....................................................................

Title or Position ...................................................................

Address Line 1 ....................................................................

Address Line 2 ....................................................................

Phone: ..............................................................................

Fax: .................................................................................

E-mail: ..............................................................................

Date: ...................... Signature: .................................

Custom IC Design Course
using professional IC Design Suite

July 19 –30, 2010

Department of Electrical Engineering
Air University, Sector E-9,
Islamabad, Pakistan.

Phone: 051-9262557-9, Fax: 051-9261045
E-mail: ic.course@mail.au.edu.pk
Website: http://www.au.edu.pk  go for ‘Advertisements’
COURSE DESCRIPTION

Custom IC design is one of the challenging fields of electrical engineering. Due to overwhelming cost and space issues, the world is maneuvering towards miniaturization, compactness and ultra low-power systems. This 10 days short course is designed to provide the basic knowledge of designing integrated circuits through sound theoretical and practical sessions using state-of-the-art modern professional Mentor Graphics’ IC Design suite.

COURSE DURATION: July 19-30, 2010

INSTRUCTOR: Mr. Nasir Mehmood

Mr. Nasir Mehmood has completed his MS degree in Electrical Engineering with specialization in System on Chip from Linkoping University Sweden in 2006. He has been teaching VLSI Design and Analog Electronics in Air University since 2008. He has 7 years of experience in public sector R&D Organization. He is actively involved in the research of mixed-signal integrated circuits at Air university. He is the author of a number of research papers published in IEEE and other international conferences.

WHO SHOULD ATTEND

The course is designed for electrical engineers, scientists and professionals who need to learn how to implement an electronic design on an integrated circuit and want to explore various design issues and techniques.

RESOURCES AVAILABLE

Mentor Graphics IC Design Architect with AMS (Analog and Mixed Signal), Eldo and Calibre tools.

WHAT YOU WILL COVER

DAY-1:
Theory (2 Hrs): Introduction to ICs, classification and methodology
Lab (2 Hrs): Introduction to IC Studio environment, Project management

DAY-2:
Theory (2 Hrs): Introduction to CMOS Technology, Fabrication Process
Lab (2 Hrs): Creating and Editing CMOS circuit schematics, symbol and test bench creation

DAY-3:
Theory (2 Hrs): Combinational Logic Design with CMOS
Lab (2 Hrs): Analog Simulation, Advanced Schematic Capture

DAY-4:
Theory (2 Hrs): Concepts of parasitic extraction
Lab (2 Hrs): Creating and editing layouts of simple circuits

DAY-5:
Theory (2 Hrs): Clock signals and timing concepts
Lab (2 Hrs): Design example of 2-bit counter from system level to layout

DAY-6:
Theory (2 Hrs): Analog and Mixed-signal simulation
Lab (2 Hrs): Creating and running a mixed-signal simulation

DAY-7:
Theory (2 Hrs): Overview of low-power integrated circuits
Lab (2 Hrs): Area and power calculations of various circuits

DAY-8:
Theory (2 Hrs): Schematic Driven Layout (SDL) and ECO
Lab (2 Hrs): Design example of building a 4-bit full adder using basic gates

DAY-9:
Theory (2 Hrs): Electrical Rules Checking, routing and shorts
Lab (2 Hrs): Design examples of nand2, xor2, full adder and 4-bit adder

DAY-10:
Theory (2 Hrs): Design verification using DRC, LVS and Calibre
Lab (2 Hrs): Design example of a full adder to verify the design at all stages

HOW TO APPLY

The application form is on the last page of this brochure. The brochure can also be downloaded from http://www.au.edu.pk/download_center.html. The course fee is Rs 20,000 payable via crossed check / bank draft / pay order in favour of Air University, Islamabad. The fee includes lunch, coffee and administrative costs.