

Computer Aided Design

- **Course number and name:**
CC 527 – Computer Aided Design
- **Credits and contact hours**
Credits Hours: 3Hrs
Contact Hours: In Lecture 2Hrs, and In Tutorial 2Hrs
- **Instructor’s or course coordinator’s name**
Coordinator Name: Dr. Sherif Fadel
- **Text book, title, author, and year**
 - Principles of CMOS VLSI Design , a systems perspective , Weste and Eshraghian, 2nd Ed. , Addison – Wesley , 2005
 - Computer Aids for VLSI Design , Rubin S., Addison –Wesley 1994
 - Basic VLSI Design, Systems and Circuits , Pucknell D. and Eshraghian K. ,Third Edition, Prentice Hall , 1994
- **Specific course information**
 - a. **Catalog description**
Algorithms and techniques for computer aided integrated circuit design
- Design flow - Physical design - Logic optimization - Timing analysis – Verification - Synthesis for testability..
 - b. **prerequisites or co-requisites**
Prerequisites: CC311, CC341
 - c. **Types of Course (required, elective, or selected elective course) in the program**
Elective Course
- **Specific goals for the course**
 - a. **Specific outcomes of instruction**

After the completion of this course the students will be able to:

	Course Learning Outcomes	SO
1	Learn new design technologies, large-scale designs using VLSI technology and modern computer techniques used in digital circuit designs & implementation.	B,I
2	Cope with state of the art technologies in digital circuit design & implementation.	G,I,J

Topics to be covered

- Introduction to CMOS Circuits
- Circuit & system Representation
- Circuit Characterization
- Circuit performance estimation
- Interconnect and Wiring
- Combinational Circuit Design
- Sequential Circuit Design
- Design methodology and Tools
- Data path subsystems
- Design tools I
- Design tools II