

Course Outline

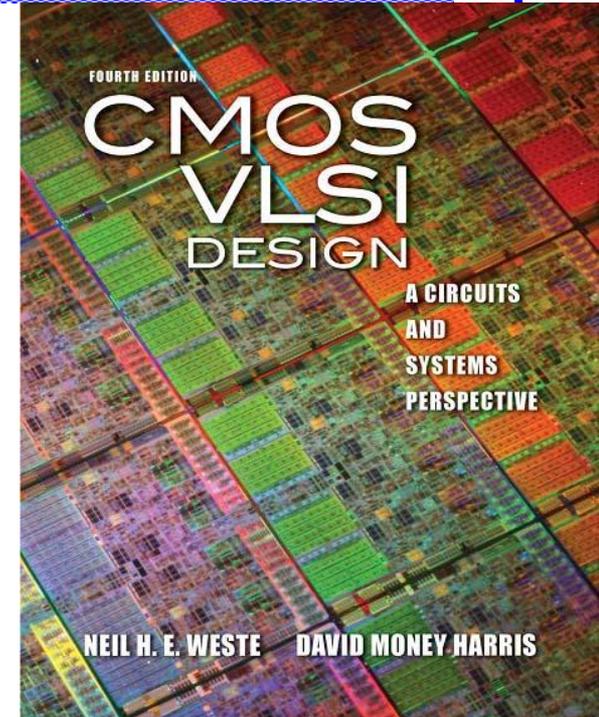
Dr. Bassam Jamil

What The Course Covers

- Implementation of Digital Gates.
- Diodes and BJTs (briefly)
- CMOS manufacturing
- CMOS DC characteristics
- CMOS Transient Analysis
- Wires
- Combinational Gates
- Sequential Gates

Textbooks

- ❑ Textbook
 - CMOS VLSI Design: A Circuits and Systems Perspective (4th Edition), Neil Weste, David Harris, Addison Wesley, 2011
- ❑ Reference
 - Digital Integrated Circuits: A Design Perspective, Jan M. Rabaey, Anantha Chandrakasan, and Borivoje Nikolic, [Prentice-Hall](#) Publication, Inc., 2002.



Grades

- ❑ First Exam : 25 %
 - Monday, Oct 21
- ❑ Second Exam : 25 %
 - Monday, Oct 25
- ❑ Final Exam : 50 %
 - TBD

Course Outline

Topic	Textbook Sections	
Introduction	1.1 & 1.2 & 1.3	Exam - 1
Diodes&BJT Gates	Notes	
CMOS Manufacturing and Processing	1.5 & 3.2	
MOS Transistor Theory	2.1 , 2.2 , 2.3 , 2.4	
DC Characteristics	2.5	
Transient Analysis	4.1 - 4.5	Exam - 2
Power	5.1 - 5.3	
Interconnect	6.1 - 6.3	
Combination Circuits	1.4 & 9.1 & 9.2	
Sequential Circuits	1.4.9 & 10.1 - 10.3	
Circuit Simulation	8.1-8.3	