

ELE 448 Digital Integrated Circuit Design I Laboratory

Syllabus Spring 2017

- Instructor:** Dr. A. J. Davis davis@ele.uri.edu
Kirk 204
(401) 874-5482
- Teaching Assistant:** Seyed Hadi Nasrollahhosseini; (Hadi) hadinhosseini@my.uri.edu;
hadi@ele.uri.edu
- Lab:** W 02:00 - 04:45 Schneider 200I (Linux Workstations)
- Credits:** 1 Credit.
- Pre-requisite:** ELE 338, ELE339, PH204, ELE212, ELE215 and concurrent enrollment in ELE 447, Digital Integrated Circuit Design I Lecture.
- Text:** D. A. Hodges, H. G. Jackson, R. A. Saleh, *Analysis and Design of Integrated Circuits*, 3rd edition, McGraw-Hill, 2004. ISBN 0-07-228365-3.

A. J. Davis, *Introduction to Integrated Circuit Design, Layout & Simulation*, Laboratory Manual, 2004.

Lab	Title	Tool	Dates
1.	Introduction to Schematic Capture & Hspice Verification	Virtuoso Schematic, Sym. ADE & Hspice	1 Feb. 8 Feb.
2.	Ring Oscillators	“”	15 Feb.
3.	Introduction to Layout	Virtuoso Layout Editor Diva DRC & LVS Checker	22 Feb., 24 Feb.
4.	D-Latches, D-FF's and T-FF's	“”	1 Mar.
5.	Synthesis Subsystems	“”	8 Mar.

Grading Elements:

<u>Element</u>	<u>Weight</u>
Labs	50%
Lab Quizzes	10%
Individual Designs	15%
Design Project (s) (Periodic deliverables, CAD Files, verification, presentation & final report)	25%