

EECS 281 Syllabus - Spring 2005

Instructor: Prof. Francis G. Wolff

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Office Hours: After class, 11:30-12:30 TR or by appointment

Classroom: Rockefeller Physics Building, ROCK 301 (WAS CLAPP 108) TR 10-11:15AM

Recitation: announced as needed or lab

Website: http://bear.ces.cwru.edu/eecs_281

Objective: This course will provide students with knowledge about combinational logic, sequential circuits, programmable logic, state machines, and computer architecture.

Prerequisites: ENGR 131 (programming ability in a high-level language) Knowledge of Boolean algebra, sets, relations, functions

Grading: 5 Exams: 20% each (only 4 count, average every 3 weeks), 10% Homeworks and Labs.
Grades will be posted on *blackboard*.

Exams: (a) Missing an exam: Must get prior approval from instructor or email instructor on the day of the exam.
(b) One sheet of paper (both sides) of notes can be used in the exam. No technology such as computers, calculators, cell phones, PDAs, etc. are allowed or needed for the exam.

Textbook: Digital Design Practice & Principles, Third Edition Updated, 2001, John F. Wakerly Prentice-Hall, Inc. ISBN 0-113-089896-1 Textbook web page: <http://www.ddpp.com/>

Tentative List of Topics (textbook chapters):

Digital Logic Gates: Truth Tables to CMOS, Logic Gate Delay, Timing diagrams, and Area (3)

Digital Modeling: CMOS Digital Circuits, VHDL, Basic Electricity (1, 3)

Number Systems: Binary, Hex, Negative Numbers, Shifting, Fractions, Precedence, Bit operations d_i (2)

Combinatorial Logic Design: Hamming, n-cube, k-maps, SOP, POS, Boolean Algebra, (4)

Combinatorial Logic Optimization: PAL, PAL, & ROM, Quine-McClusky, Multi-Output Minimization (5-6)

Sequential Logic Design Principles: Moore State machines, Dataflow, Regular expressions & FlipFlops (7-9)

Computer Organization: Memory, CPU, Micro Architecture & Assembly Language (10, time permitting)

Homework/Lab Assignments:

(a) Must be turned before the end of the class period. (b) Not every problem will be graded by the grader. It is your responsibility to double check the answers your self which are posted on the website. (c) About one assignment per week, may include written problems and/or simulation work. (d) Late homework, unless excused, will be assessed a penalty of 10% per day late.

Students with disabilities who are registered with the Coordinator of Disability Services (368-5230) and who may need individual arrangements please meet with me before the exam. Also, please see the CWRU University Statement of Ethics at <http://www.cwru.edu/provost/ugstudies/instrman/ethics.html> for more information.