# CSCI-1510
# Digital Logic Design
# Spring 2014

**Instructor:** Diane Yoha, MSEE **Email:** diane.yoha@ucdenver.edu

**Office:** Lawrence Street Center, Cubicle 2 **Office Hours:** TBD

**Classroom/Lab:** Lawrence Street Center, RM 840 (PC Lab)

**Catalog Course Description:** The design and analysis of combinational and sequential logic circuits. Topics include binary and hexadecimal number systems, Boolean algebra and Boolean function minimization, and algorithmic state machines. Lecture/lab includes experiments with computer-aided design tools. Students must be Calculus I ready in order to take the course. Semester hours: 3 to 3

**Prerequisites:** MATH 1120 or 1130 or equivalent. NOTE: Students that receive a satisfactory score on the math placement exam or received a 620 or above on the SAT or a 27 on the ACT may contact the department for permission to register for the course.

**Expected Knowledge at the Start of the Course:**

- Knowledge/completion of Algebra I course: number systems, numbering properties (distributive, commutative, etc.), and number types.
- Knowledge of computer programming techniques is strongly recommended, but not required.

**Expected Knowledge at Course Completion:**

- Able to convert from/to binary and hexadecimal numbers.
- Ability to read/understand basic combinational and sequential logic diagrams.
- Familiarity with computer aided design tools.
- Familiarity with the design and implementation of Algorithmic state machines.

**ABET Assessment Criteria:**

(a) An ability to apply knowledge of computing and mathematics appropriate to the discipline

**Textbook:**

Digital Design: With an Introduction to the Verilog HDL, M. Morris Mano, Michael D. Ciletti, ISBN: 9780132774208

**Course Outline:**

| Week | Date | Topic | Reading | Assignments/ ABET Criteria if Applicable |
|---|---|---|---|---|
| 1 | T 1/21 | Introduction/Chapter 1 | Ch 1 | -- |
| | TH 1/23 | Chapter 1 | Ch 1 | |
| 2 | T 1/28 | Chapter 1 Cont | Ch 1 | |
| | TH 1/30 | HW Review/ Lab 1 | | Hw 1 due |
| 3 | T 2/4 | Lab 1 | | |
| | TH 2/6 | Chapter 2 | Ch 2 | Lab 1 due |
| 4 | T 2/11 | Chapter 2 | Ch 2 | |
| | TH 2/13 | HW Review/Lab 2 | | Hw 2 due |
| 5 | T 2/18 | Lab 2 | | |
| | TH 2/20 | Chapter 3 | Ch 3 | Lab 2 due |
| 6 | T 2/25 | Chapter 3 | Ch 3 | |
| | TH 2/27 | Chapter 3 | Ch 3 | |
| 7 | T 3/4 | Review | | Hw 3 due |
| | TH 3/6 | Test 1 | | |
| 8 | T 3/11 | Chapter 4 | Ch 4 | |
| | TH 3/13 | Chapter 4 | Ch 4 | |
| 9 | T 3/18 | Chapter 4 | Ch 4 | |
| | TH 3/20 | Lab 3 | | |
| 10 | T 3/25 | SPRING BREAK | | |
| | TH 3/27 | | | |
| 11 | T 4/1 | Chapter 5 | Ch 5 | Hw 4 due |
| | TH 4/3 | Chapter 5 | Ch 5 | Lab 3 due |
| 12 | T 4/8 | Chapter 5 | Ch 5 | |
| | TH 4/10 | Lab 4 | | Hw 5 Due |
| 13 | T 4/15 | Chapter 6 | | |
| | TH 4/17 | Chapter 6 | Ch 6 | Lab 4 due |
| 14 | T 4/22 | Chapter 6 | Ch 6 | |
| | TH 4/24 | Lab 5 | Ch 6 | |
| 15 | T 4/29 | Chapter 7 | | Hw 6 Due |
| | TH 5/1 | Chapter 7 | Ch 7 | |
| 16 | T 5/6 | Lab | Ch 7 | Hw 7 Due |
| | TH 5/8 | Review | | Lab 5 Due |
| 17 | T 5/13 | Test 2 (exact date TBD) | | |
| | TH 5/15 | | | |

**Grading Policy:**

**Your grade will be composed of the following items:**

| | |
|---|---|
| Attendance/Participation | 5% |
| Homework | 25% |
| Labs | 20% |
| Quizzes | 10% |
| Tests (2) | 40% |

Your letter grade for the course will be computed as follows:

[90-100] = A
[80-90) = B
[70-80) = C
[60-70) = D
[0-60) = F

**** I reserve the right to give + and – modifiers to the letter grades.

Please save all your graded work (homework, quizzes, labs, and exams) until the end of the semester. In the event there is a mistake in grading or you contest your grade, you will need your work to verify your claim. Otherwise, your grade as computed will stand.

**Notes:**

1. Attendance is **mandatory**. Part of your grade is based on attendance and participation.

2. a) There are NO make-up exams. You must take the exam on the assigned day.

b) There are NO make-up quizzes.

3. You MUST show your work on all assignments. It is possible to get partial credit for problems. Part of this class is learning how to solve problems and the steps required to achieve that goal.

If you do not show your work, the problem will be graded as incorrect and will receive NO credit.

4. All assignments must be turned in by the beginning of class on the due date.

Late homework will NOT be accepted. Homework is due on the due date.

5. Violations of the school honor code will not be tolerated. Read the Honor Code and if you have any questions please come see me.

6. Please see the Academic Calendar for important dates for the Spring 2014 Semester.

7. The syllabus is subject to change.