



Computer Science Department

Course Syllabus
CS106 - Digital Logic

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| Catalog Description: | This course focuses on the fundamental constructs and concepts underlying computer hardware and software which includes: number systems, binary arithmetic, codes, Boolean algebra, gates, Boolean expressions, Boolean switching function synthesis, iterative arrays, sequential machines, state minimization, flip/flops, sequential circuits, simple processors. |
| Credit Hours: | 3 Credit hours: 2 Lectures per week 2 Labs. per week 0 Recitation per week |
| Prerequisites: | Discrete Structures (CS104) |
| Course Learning Outcomes: | <ol style="list-style-type: none">1. Develop an understanding of different numbering systems and the concept behind Boolean algebra and the two valued logic.2. Optimize logic functions using any type of minimizing algorithms (Boolean algebra or Karnaugh map).3. Analyze any digital logic circuit either Combinational or Sequential.4. Design digital logic circuits (Define the problem, Determine inputs and outputs, Express the outputs as Boolean expressions and Implement the outputs).5. Use simulation software for developing and testing digital logic circuits. |
| Major Topics: | <ul style="list-style-type: none">- Number Systems- Boolean Algebra and Logic Gates- Gate-Level Minimization- Combinational Logic Circuits- Sequential logic- Registers and counters |
| Text Books: | Digital Design, Mano, M. Morris, 4th edition, Prentice-Hall, 2007. |



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Grading:

- ⦿ The grading scale for this course is:
 - . 95 - 100 A+ Passing
 - . 90 - 94 A Passing
 - . 85 - 89 B+ Passing
 - . 80 - 84 B Passing
 - . 75 - 79 C+ Passing
 - . 70 - 74 C Passing
 - . 65 - 69 D+ Passing
 - . 60 - 64 D Passing
 - . 0 - 59 F Failing

- ⦿ Final grades will be determined based on the following components:
 - . 60% Semester Work
 - . 40% Final Exam

- ⦿ Students may not do any additional work for extra credit nor resubmit any graded activity to raise a final grade.

- ⦿ Late submissions will not be accepted for any graded activity for any reason.

- ⦿ Students have one week to request the re-grading of any semester work.

Attendance Policy:

Students should attend 80% of the overall course hours taught in the semester as per the University regulations.

If a student fails to achieve this portion, he/she shall not be allowed to appear in the final exam and shall be awarded "DN" grade and repeat the course.

Cheating and Plagiarism Policy:

The instructor will use several manual and automated means to detect cheating and/or plagiarism in any work submitted by students for this course.

When a student is suspected of cheating or plagiarism, the instructor raises the issue to the disciplinary committee.



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Communications: Registered students will be given access to a section of the Blackboard Learning System for this course. Bb will be used as the primary mechanism to disseminate course information, including announcements, lecture slides, assignments, and grades.

Communication with the instructor on issues relating to the individual student should be conducted using CIS email, via telephone, or in person.