CSC 331 – Compute Organization

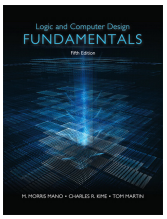
California State University Dominguez Hills
Department of Computer Science and Technology
Fall 2016

Instructor	Malcolm McCullough	**E-Mail**	mmccullough@csudh.edu
Classroom	SAC 3165	**Class Time**	MW 17:30 - 18:45
Office	SAC-1115 or SCC-800 (TTh)	**Office Hours**	MW:11:00-13:00 & TTh:15:00-16:00

COURSE DESCRIPTION:
This course is an introduction to computer organization. It focuses on the structure of the modern digital computer. And gives an introduction to Boolean algebra and design of digital circuits. As well as arithmetic, control, storage, and input/output systems.

PRE-REQUISITE: CSC 221 and MAT 281 with grade "C" or better and consent of Instructor.

TEXTBOOKS



[Recommended]: Logic and Computer Design Fundamentals, 5th Ed. by Morris M. Mano and Charles R. Kime, Prentice-Hall, Inc. **ISBN:** 9780133760637 **Copyright Year:** 2016

COURSE GOALS: The goal of the course is to
- Understand the hardware design of digital systems and digital computers.
- The focus is on the principles that should underline the development of computer systems,
- And on relevant design and implementation techniques.
- The specific topics covered include:
  - gates and flip-flops,
  - combinational and sequential circuits,
  - registers and counters, memory and
  - ALU, control logic and addressing, CPU and
  - Input/Output interface.

COURSE OUTCOMES:

Upon the end of this course, successful students:
- Will learn how to design and analyze
- combinational circuits
  - adders, encoders, decoders, multiplexers, demultiplexers,
- sequential circuits
  - registers, counters,
- Arithmetic Logic Unit, CPU Control Circuitry, and computer memory (ROMs and RAMs).

AMERICANS WITH DISABILITIES ACT
CSUDH adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Disabled Student Services (DSS) and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: no accommodation can be made until you register with the DSS. For information call (310) 243-3660 or to use the Telecommunications Device for the Deaf, call (310) 243-2028 or goto: http://www4.csudh.edu/dss/

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COMPUTER INFORMATION LITERACY EXPECTATIONS

It is expected that students will:

1. *Use Microsoft Word for word processing unless otherwise approved by the instructor,*
2. *Be familiar with using email as a communication tool and check your official campus email accont at least every other day;*
3. *Be able to access websites and online course materials which may require Flash and other plug-ins;*
4. *Use the library databases to find articles, journals, books, databases and other materials;*
5. *Be able to create an effective PowerPoint presentation;*
6. *Be able to record audio (ideally video) to share with the instructor via the web; and*
7. *Have regular access to a computer and internet access for the term of this course.*

ACADEMIC INTEGRITY

Academic integrity is of central importance in this and every other course at CSUDH. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. ***All work turned in by a student for a grade must be the students' own work.*** Plagiarism and cheating (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated, and will be dealt with according to University policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade for the work you plagiarized or cheated on, to being dropped from the course.

BEHAVIORAL STANDARDS

Behavior that persistently or grossly interferes with classroom activities is considered disruptive behavior and may be subject to disciplinary action. Such behavior inhibits other students' ability to learn and an instructor's ability to teach. The instructor may require a student responsible for disruptive behavior to leave class pending discussion and resolution of the problem and may also report a disruptive student to the Student Affairs Office (WH A-410, 310-243-3784) for disciplinary action.

COURSE POLICIES:

- Deliverables (Class Assignments, Projects) submitted late are not accepted without obtaining instructors permission prior to due date.
- Deliverables (Class Assignment, Projects) not submitted before the end of the final class will earn 0%.
- Any exceptional, non-academic circumstances need to be discussed with the instructor as soon as they arise, prior to the due date of the deliverable. At the time of the discussion, NO make-up work will be assigned.

The instructor reserves the right not to award credit for deliverables that are incomplete. Partial credit is awarded at the instructor's discretion, and only for work that merits such an award. Assignments that are incomplete or incongruous with the specifications may be returned to the student.

EXAMs: There will be three exams. The first exams will be given during the 5th week, the second exam will be given during the 10th week and the final exam will be given on the date posted in the final examination schedule printed in the campus Class Schedule. The exams will be closed book/notes and include material from the book and lectures. Students are responsible for the any and all materials that will be presented in lecture and textbook. No makeup or early exams will be administered; unless there are serious, unforeseen, and unavoidable circumstances and the student notifies the instructor as soon as possible.

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PROGRAMMING AND ASSIGNMENTS:
There will be multiple homework assignments assigned during the semester. They will be announced in class and must be submitted to the instructor at the beginning of class on the date due. The assignments may be type (preferred) but hand-written is acceptable as long as it is illegible and clear enough for the instructor to read. All assignments must include in the upper left hand corner, the course name, assignment name/number, and name of student. All assignments/projects must be handed to the instructor in at the beginning of class on the date due (no late work).

GRADES:
The following grading scale will be used:

Score	Grade	Score	Grade
91-100	A	90	A-
89	B+	81-88	B
80	B-	79	C+
71-78	C	70	C-
69	D+	64-69	D
0-63	F		

GRADING:
The weighting of the coursework is listed below:

Exam One	**20%**
Exam Two	**20%**
Final Exam	**20%**
Assignments/Quizzes	**40%**

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TOPIC OUTLINE (Will be conducted according the following. However, the schedule of the topics schedule or timetable will vary)

Tentative Course Schedule

Week #	Topic	Reading Assignment	Labs
Week 1	Introduction	Chapter 1	TBA
Week 2	Digital Systems and Information	Chapter 1	TBA
Week 3	Digital Systems and Information	Chapter 1	TBA
Week 4	Combinational Logic Circuits	Chapter 2	TBA
Week 5	**Exam One**	Chapter 1-2	
Week 6	Combinational Logic Circuits	Chapter 2	TBA
Week 7	Combinational Logic Circuits Combinational Logic Design	Chapter 2 & 3	TBA
Week 8	Combinational Logic Design Combinational Logic Design	Chapter 3	TBA
Week 9	Arithmetic Functions	Chapter 3	TBA
Week 10	**Exam Two**	Chapter 2-3	
Week 11	Arithmetic Functions	Chapter 4	TBA
Week 12	Sequential Circuits	Chapter 5	TBA
Week 13	Sequential Circuits	Chapter 5	TBA
Week 14	Register and Register Transfers Memory Basics	Chapter 7 & 8	TBA
Week 15	Computer Design Basics	Chapter 9	TBA
Week 16	**Final Exams Week**	The Final Exam: 4-9	