

CpE 213

Digital Systems Design

Introduction

Lecture 1

Monday 8/22/2005



UNIVERSITY OF MISSOURI-ROLLA
The Name. The Degree. The Difference.

Overview

- Administrative matters
- Introduction and motivation
- Review of number systems

Typical Lecture Format

- 45-Minute Lecture, including one or more group exercises
- 5-Minute Review
- PowerPoint slides will have to be filled in by students in class.

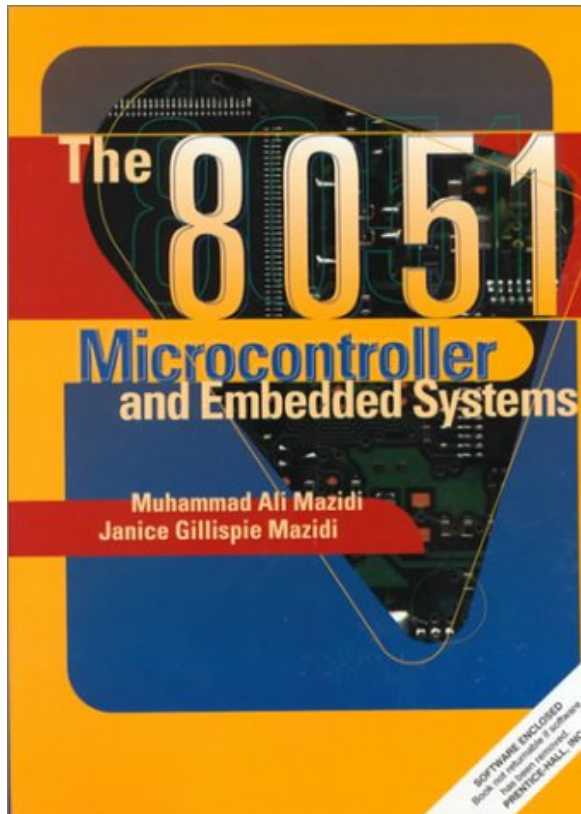
Basic information

- Instructor: Dr. Sahra Sedigh-Ali
- Email: sedighs@umr.edu
- Phone: 341-7505
- Office: EECH 135
- Office Hours: Tuesdays and Thursdays
1:00-2:30, or by appointment.
- Email is the best way to reach me.

Course prerequisites

- CpE 111 (Intro to Comp Eng)
- A C programming course (CS 53 or CS 74)
- CpE 214 is strongly recommended as a co-requisite.
- by topic:
 - Familiarity with C programming.
 - Knowledge of the functions of logic gates, decoders, multiplexers, and similar combinational logic elements.
 - Knowledge of the functions of flip-flops, registers, counters, and similar sequential logic elements.

Required textbook



The 8051 Microcontroller
and Embedded Systems,
Muhammad Ali Mazidi
and Janice Gillespie
Mazidi,
ISBN 0138610223,
Prentice Hall, 1999.

A number of recommended supplemental texts are listed
in your syllabus.

Homework

- You are expected to read appropriate sections of the textbook before presentation in class.
- You are expected to download the lecture notes from Blackboard and bring them to class.
- Homework problems will be posted on Blackboard.
- Assignments are due at the beginning of class.
- Late homework will receive 50% of the possible score if handed in within 24 hours of the time it is due.
- Late assignments will not be accepted after 24 hours of the original deadline.
- While you are expected to complete all homework assignments, the grader may randomly select only certain problems to grade.

Course Objectives

- Interpret and design hardware and software for simple real-time digital systems that use the 8051 microcontroller.
- See remaining objectives on syllabus.

Group Exercises and Quizzes

- The class will be divided into groups of 4 students.
- Identify your group and select a spokesperson.
- The spokesperson should email me with the names of all group members.
- The deadline for this email is Friday 9/2 at 3:00 pm.
- Choose your groups carefully, as you will be working together on the semester project, as well as on group exercises.
- We will have regular group exercises in class.
- We may also have a number of brief unannounced quizzes in class, to be submitted by each student individually.
- A score of zero will be given for a quiz or group exercise in case of absence.
- No makeup quizzes or exercises will be given.

Exam dates

- Exam 1: Monday, October 3
- Exam 2: Monday, November 7
- Final: Monday, December 12, 8:00 to 10:00 am
- Locations for all three exams will be announced in class and posted on Blackboard.
- Each exam will be preceded by an in-class review .
- Students needing special accommodations for an exam should notify me at least one week prior to the exam.

Grading

- Homework: 10%
- Quizzes and Group Exercises: 5%
- Exam 1: 20%
- Exam 2: 25%
- Project (tentative): 15%
- Final Exam (Comprehensive): 25%

Drop Policy

- **Students with too many missed assignments will be dropped.**
- Any student who has missed a total of 5 assignments of any kind (tests, homework, quizzes, or group exercises) can be dropped if the student's accumulated points are less than 70% of available points **at any time** during the semester.

Academic Honesty

- Any action that might unfairly improve a student's score on homework, quizzes, or examinations will be considered cheating, and will not be tolerated.
- Cheating on assignments or exams can result in a zero score for the assignment or exam, or a reduced or failing grade for the course, at the discretion of the instructor.
- Instances of cheating will be reported to university administrative officials for further action and possible suspension or expulsion from the University.

Feedback

- Your feedback is critical to my success as an instructor.
- Please return the index cards that I will periodically distribute.
- Feedback can be provided anonymously.
- Your comments are appreciated and are welcome throughout the semester.

Important reminder

- The course syllabus is a legally binding agreement between you and your instructor.
- Portions have been skipped in class.
- Please read it in its entirety.

Bad ways of learning design

- Relying solely on lectures on how to solve design problems
- Reading about how to solve design problems
- Watching someone else solve the design problem, or reading their solution
- You will forget most of what you hear, but will remember most of what you put into practice.

Before we begin ...

- Every one of you can do well on this course.
- Do not jeopardize your success by:
 - skipping classes
 - failing to do the homework problems
 - procrastinating
 - expecting to “learn by osmosis”
 - being dishonest in any way.

For Wednesday

- Read the syllabus in its entirety.
- Review today's lecture notes.
- Read Chapter 0.
- Print lecture notes for Lecture 2.
- Email me names of your group members (one email per group).