Computer Science 231
Computer Organization
Spring 2022

Instructor: Dr. Chris Healy
My office is located in Room 200-I in Riley Hall. My office hours are MWF 11:30 – 1:20 or by appointment. Office telephone number 294-2233 and e-mail address chris.healy@furman.edu.

Class meetings: MWF 1:30 – 2:20 in Room 106 in Riley Hall. Labs are held Wednesdays in Room 203 in Riley Hall.

Purpose: This course introduces you to concepts dealing with the hardware inside the computer. We will explore what happens when a program is compiled and then run. We will also write programs in assembly language, to contrast the styles of high-level and low-level programming.

Textbook: *Computer Organization and Design (MIPS Edition)*, by Patterson and Hennessy, sixth edition, 2021. We will cover chapters 1-5 plus appendix A.

Course Web site: http://cs.furman.edu/~chealy/cs231

Grade calculation:

- 10% Labs
- 15% Homework
- 10% Quizzes
- 20% Test #1 Friday, February 11
- 20% Test #2 Friday, March 25
- 25% Final Thursday, April 28, 12:00 – 2:30 p.m.

Please note the dates and times of these exams. Any appropriate documentation supporting special arrangements necessary for any test must be given to me during the first week of class.

If you miss a test or quiz, then you will earn a score of zero, unless your absence is excused. The registrar's office announces the academic calendar a year in advance. Therefore, travel plans are not an acceptable excuse for missing a test or quiz. If you know in advance that you cannot take a one, please let me know as soon as possible, so that you can take it early. Otherwise, if you are absent from a test or quiz due to an excused absence, then your final exam grade will substitute for its score.

Labs: This class features a lot of hands-on experience on the computer. Keeping up with the lab work is essential because most lab activities build on previous ones. Please keep your work organized so that you can quickly refer to work you have done previously. You must attend the entire lab period, unless you finish early. To earn full credit for a lab, all checkpoints need to be completed correctly. You are responsible for completing all lab work, but you may receive help from the instructor, the lab aide, or anyone else in the class.

Preparation: You will need to study about 5 hours per week for this class. Study includes reviewing notes, becoming acquainted with the material to be discussed in the next class, homework assignments, finishing labs as necessary, and preparing for exams. Studying on a consistent schedule each day will work far better for you than cramming before a test. Please see me if you need help or advice in this course. I am here for you.

Deadlines and late policy:

Type of activity	Deadline	Is late work accepted?
Labs	Six calendar days after the lab period	No
Homework (e.g. programming assignment)	This will be stated on the handout	Yes, but the submission will be penalized 10 percentage points. No work will be accepted more than 2 weeks late.

Tentative course schedule:

Chapter 1 (performance)	January 10 – 14
Chapter 2 and Appendix A (assembly language)	January 19 – February 9
Test #1	February 11
Chapter 3 (computer arithmetic)	February 14 – March 4
Chapter 4 (processor)	March 14 – April 1
Test #2	March 25
Chapter 5 (memory hierarchy)	April 6 – 25
Final exam	April 28 at 12:00