

**Syllabus**  
**CSCI 304-01 Computer Organization**  
**Fall 2007 (2nd edition)**

**Class time & place:** 9:00–9:50 MWF, Morton 1

**Instructor:** Bruce Lowekamp <lowekamp@cs.wm.edu>

Office Hours: M8–9,10–11 & W10–12 or by appointment

Please feel free to IM anytime. I will reply if/when I am able.

**TA:** Tim Kevinn <kevinn.tian@gmail.com>

**Course Web site:** <http://www.cs.wm.edu/~lowekamp/classes/304-F07>

### Required Work

You are expected to complete the homework on your own, as a matter of honor. You may consult with your classmates about an assignment, but your work is private. You should neither show someone else your work nor permit someone else to look at your work.

You should use an **empty hands** attitude toward collaboration: talk about the homework as you wish, but enter and leave the conversation with nothing written. To be explicit, this policy prohibits your copying work of any kind from someone else’s notebook or workstation screen.

### Textbooks

There are **TWO textbooks** for the course. Both are required:

1. *Computer Systems: A Programmer’s Perspective*, Randal Bryant and David O’Hallaron, Prentice-Hall, 2002, ISBN 0-13-034074-X.
2. *A C Reference Manual, Fifth Edition*, Samuel Harbison and Guy Steele, Prentice-Hall, 2002, ISBN 0-13-089592-X.

### Late Policy

No assignment will be accepted after its deadline.

### Grade Determination

Your grade is based on the following work

Homework 0	1%
Best eight of Homework 1, . . . , Homework 10, 1% each	8%
Lab 1 . . . Lab 6, 8% each	48%
Two in-class examinations, 11% each	22%
Final examination	21%
	<hr/>
	100%

Letter grades in the course will be determined by the “10% rule”: an average of 90% earns at least an **A**, 80% earns at least a **B**, 70% earns at least a **C**, 60% earns at least a **D**, and an average below 60% earns an **F**.

If you have a disability that may affect your participation in this course and wish to discuss academic accommodations, please contact me **as soon as possible**.

				B & O'H sections		assignment due	out	
1	W	08/29	2.1	Introduction, binary number system	-	hw0		
2	F	08/31	2.1,2.2	Integer representation, arithmetic	-	-		
3	M	09/03	2.2,2.3	Integer representation, arithmetic	-	hw1		
4	W	09/05	2.3	Integer arithmetic	hw0	lab1		
5	F	09/07	2.4	Floating point	-	-		
6	M	09/10	2.4	Floating point	hw1	hw2		
7	W	09/12	3.2-3.4	Program encoding, data access	-	-		
8	F	09/14	3.5-3.6	Arithmetic	-	-		
9	M	09/17	3.6	flow of control	hw2	hw3		
10	W	09/19	3.7	Procedures, stack frames	lab1	lab2		
11	F	09/21	3.7	Procedures in gdb	-	-		
12	M	09/24	3.7	Procedures: Fibonacci Recursion	hw3	hw4		
13	W	09/26	3.8	Arrays	-	-		
14	F	09/28	3.8-3.9	Arrays, Structs, unions	-	-		
15	M	10/01	3.9	Structs, unions	hw4	hw5		
16	W	10/03	3.13	Buffer overflow attacks	lab2	lab3		
17	F	10/05	<b>Exam 1</b> on material from 08/30 through 10/01					
18	M	10/08	5.1-5.5	Optimizing performance	-	-		
19	W	10/10	5.6-5.7	Optimizing performance	-	-		
20	F	10/12	5.8-5.14	Optimizing performance	-	-		
	M	10/15	Fall Break					
21	W	10/17	10.9	Dynamic memory allocation	hw5	hw6		
22	F	10/19	10.9	Dynamic memory allocation	lab3	lab4		
23	M	10/22	10.9	Simple dynamic memory allocation	-	-		
24	W	10/24	10.9	Explicit free lists	-	-		
25	F	10/26	10.9	Explicit free lists	hw6	hw7		
26	M	10/29	ch 7	Linking	-	-		
27	W	10/31	ch 7	Relocation tables	-	-		
28	F	11/02	ch 7	Relocation tables	lab4	lab5		
30	M	11/05	ch 7	Relocation tables	hw7	hw8		
29	W	11/07	<b>Exam 2</b> on material from 10/03 through 10/26					
31	F	11/09	6.3-6.5	Cache memory organization	-	-		
32	M	11/12	6.3-6.5	Cache memory organization	-	-		
33	W	11/14	6.3-6.5	Cache memory organization	hw8	hw9		
34	F	11/16	-	Locality – the memory mountain	-	-		
24	M	11/19	-	Locality – the memory mountain	lab5	lab6		
	W	11/21	Thanksgiving					
	F	11/23	Thanksgiving					
35	M	11/26	-	Putting it together	-	hw10		
36	W	11/28	-	Java Virtual Machine	hw9	-		
37	F	11/30	-	Java Virtual Machine	-	-		
38	M	12/03	-	Java Virtual Machine	hw10	-		
39	W	12/05	-	Java Virtual Machine	-	-		
40	F	12/07	-	Java Virtual Machine	lab6	-		

**Final Exam:** 8:30am – 11:30am, Tuesday, December 11, 2007, Morton 1

**Note:** Exam dates and homework/lab out and due dates are fixed and will not change. The subject covered on a particular day may vary from what is shown.