

COMPSCI 253: Object-Oriented Program Development in C

Instructor

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Meetings

Lectures: MoWe 11:40-12:30 MEC-106
Office hours: MoWe 9:40-10:30 MEC-302C
by appointment MEC-302C

Catalog Description

Introduction to object-oriented style of programming in C for Java programmers in a Linux/Unix environment. Basic structure of C programs, function pointers, variable argument lists, other generic programming techniques. Software building using make. Testing and debugging techniques. Case studies.

Objectives

Students are introduced to techniques that allow object-oriented programming in the C programming language, including:

- translating their knowledge of object-oriented programming in Java to C
- becoming familiar with various paradigms in C programming
- designing and developing programs of moderate complexity in C
- using various tools to improve their productivity
- using object-oriented techniques with system utilities
- other contemporary topics

Prerequisites

COMPSCI 125 Introduction to Computer Science I
COMPSCI 225 Introduction to Computer Science II

Textbooks and Other Resources

The textbooks are:

- *Local Linux Users Guide*, by Amit Jain and John Rickerd. 2004.
- *The C Programming Language*, by Brian Kernighan and Dennis Ritchie. Prentice Hall, second edition, 1988.

Grading

Grades are PASS or FAIL.

Grades are based on the success of finishing several homework assignments. A typical assignment is: rewriting basic data structures from COMPSCI 225 (e.g., doubly-linked lists, hash tables, or binary search trees) in C, writing shell scripts, or developing a test harness.

Homework is delivered at the beginning of class on the day it is due. Late work is not accepted.

Scores are posted near my office, as they become available. You are encouraged to check your scores to ensure they are recorded properly. If you feel that a grading mistake has been made, contact me within two weeks of the date that work is returned. Old scores are not changed.

Academic Honesty

The following quotation is from the BSU Undergraduate Catalog. You should read that section.

The university's goal is to foster an intellectual atmosphere that produces educated, literate people. Because cheating and plagiarism are at odds with that goal, they shall not be tolerated in any form. Therefore, all work submitted by a student must represent that student's own ideas and effort; when the work does not, the student has engaged in academic dishonesty.

There is related material in the BSU Student Handbook.

The course instructor is responsible for handling each case of academic dishonesty in the classroom except where a major or repeated offense is involved. In a proven case of cheating a student will be dismissed from the class and a failing grade issued.

There are many forms of academic dishonesty. Some relevant examples include:

- Submitting programs, or parts of programs, written by someone else.
- Viewing exam answers, homework answers, or programs written by someone else. This includes material from other courses and previous semesters.
- Distributing exam answers, homework answers, or programs to someone else, even after it has been graded.

The BSU Undergraduate Catalog contains more examples. If you are unsure about a particular case, ask your instructor,

On homework, a student must work independently. Ideas and general principles can be discussed with other students, but work must be original.

Keep your files to yourself. See the UNIX commands `chmod go-rwx` and `ls -l`.

Computer Accounts

Each student receives an account on the department's network of computers, which run the LINUX operating system. If you are unfamiliar with the department's computers, you are urged to attend office hours during the first week or two of classes. I'll try to get you started with these powerful tools.

You are responsible for understanding and complying with the departmental computing policy.

Schedule

<i>Week</i>	<i>Date</i>	<i>Topic</i>	<i>Assigned</i>	<i>Due</i>	<i>Reading</i>
1	Jan 18 Mon	MLK Day			
	Jan 20 Wed	Introduction GNU/Linux			
2	Jan 25 Mon				
	Jan 27 Wed	Topics in C			
3	Feb 01 Mon				
	Feb 03 Wed				
4	Feb 08 Mon				
	Feb 10 Wed				
5	Feb 15 Mon	President's Day			
	Feb 17 Wed				
6	Feb 22 Mon				
	Feb 24 Wed		HW#1		
7	Mar 01 Mon				
	Mar 03 Wed				
8	Mar 08 Mon	Make			
	Mar 10 Wed				
9	Mar 15 Mon	Debugging			
	Mar 17 Wed		HW#2	HW#1	
10	Mar 22 Mon	Shell Scripts			
	Mar 24 Wed				
11	Mar 29 Mon	Spring Break			
	Mar 31 Wed	Spring Break			
12	Apr 05 Mon	Filters and Pipes			
	Apr 07 Wed				
13	Apr 12 Mon	Test Harnesses	HW#3	HW#2	
	Apr 14 Wed				
14	Apr 19 Mon	Perl Scripts		HW#3	
	Apr 21 Wed				
15	Apr 26 Mon	Java and C	HW#4		
	Apr 28 Wed				
16	May 03 Mon	C++ and C			
	May 05 Wed			HW#4	