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CS 201 Computer Science I (Sections 5-8)

Fall 1997

Prerequisites: Math 128 (College Algebra and Trigonometry). If you do not meet the prerequisite requirements for this course, you should see me immediately.

Credit hours: 3.0

Instructor: Dr. George Bebis
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Office Hours: MWF: 2:00 - 4:00 PM and by appointment.

TA: Alexey Kryuchkov (alexey@cs.unr.edu) - Sections 5 & 6
Office Hours: M: 2:00-4:00, W: 1:00-3:00, R: 2:00-3:00, F: 2:00-5:00 (351 LMR)

TA: Mohammad Siddiqui (siddiqui@cs.unr.edu) - Sections 7 & 8
Office Hours: M: 1:00-2:00, T: 4:30-6:30, W: 3:00-7:00, F: 1:00-2:00 (351 LMR)

Lab Hours: M: 8:00am-7:00pm, T: 8:00am-8:00pm, W: 8:00am-7:00pm, R: 8:00am-8:00pm, F: 8:00am-5:00pm

Required Texts:

Programming and Problem Solving with C++ by N. Dale, C. Weems, and M. Headington, D.C. Heath and Company, 1996.

A Laboratory Course in C++ by N. Dale, Jones and Bartlett Publishers, 1997.

Optional Texts:

C: How to Program by H. Deitel and P. Deitel, 2nd edition, Prentice Hall, 1994.

Objectives

This is a first course in computer science and is intended to provide a rigorous introduction to problem solving and algorithm development using the programming language C++. After completing this course, the student should be able to understand and carry out the steps involved in solving a problem using a computer, including the analysis, design, implementation, documentation, and testing phase. The student should also be proficient with the programming environment and understand the system hardware and software aspects of program translation.

Course Arrangement

The course is arranged on a lecture-laboratory basis. During a regular 15-week semester there will be three lecture sessions and one laboratory session per week. The three lectures (on Monday, Wednesday, and Friday of each week) will be common for all students. The laboratory session (on Thursday) will be held on a small group basis and will be taught by one of the teaching assistants assigned to the course. Questions are encouraged in both the lecture and laboratory Sessions.

Course Outline (tentative)

- Overview of Programming and Problem Solving (Chapter 1)
- C++ Syntax and Semantics, and the Program Development Process (Chapter 2)
- Arithmetic Expressions, Function Calls, and Output (Chapter 3)
- Program Input and the Software Design Process (Chapter 4)
- Conditions, Logical Expressions, and Selection Control Structures (Chapter 5)
- Looping (Chapter 6)

First exam (10/13/1997, 12:00-12:50 pm)

- Additional Control Structures (Chapter 9)
- Functions (Chapter 7)
- Scope, Lifetime, and More on Functions (Chapter 8)
- Simple Data Types: Built in and User-Defined (Chapter 10)
- One-Dimensional Arrays (Chapter 11)
- Applied Arrays: Lists and Strings (Chapter 12)
- Multidimensional Arrays (Chapter 13)

Second exam (12/5/1997, 12:00-12:50 pm)

Final Exam - comprehensive (12/12/1997, 12:00-2:00 pm)

Course Policies

Class Attendance: Regular attendance is highly recommended. If you miss a class, you are responsible for all material covered or assigned in class.

Lab Assignments: The laboratory is a mandatory part of the class. During each lab meeting students will work individually to solve a set of problems using the computer. Before each lab session, you must have completed the "pre-lab" part of the laboratory and you must have read the "in-lab" part. A tentative schedule of the lab assignments can be downloaded from the course's homepage. You will be instructed by the Teaching Assistants as how to submit your solutions to the lab assignments for grading. **No late labs will be accepted and the grade for a late lab will be zero.**

Programming Project: A programming project will be assigned 2 1/2 weeks before the end of classes. It will count as 3 labs and it will be graded on correctness, style, and documentation. Late programming assignments will not be accepted.

Quizzes: There will be short quizzes in class. These will be announced at least one class period in advance. There will be no make-ups for missed quizzes.

Exams: There will be two exams and a final. All exams will be closed books, closed notes. If you are unable to attend an exam *you must inform me in advance*. **No incomplete grades (INC) will be given in this course and a missed exam may be made up only if it was missed due to an extreme emergency.**

General Comments: Since the material in this course is highly integrated, a limited understanding of one topic will have a serious effect on the understanding of subsequent topics. You should expect to spend many hours on this course outside the classroom. Do not expect to fully understand the material covered in this class if you do not spend many hours in front of your computer. The first few lab assignments may seem easy but take longer than you think. Also, the assignments get harder as the semester progresses. Don't get behind in the lab assignments !!! Probably the main reason for students doing poorly in this course is because they get behind in the lab assignments and never recover.

Grading Scheme

Quizzes: 10%
Labs + Project: 40%
Mid-terms: 15% (each)
Final Exam: 20%

A 90 and above
B 80-89
C 65-79
D 55-64
F < 55

Important dates

9/1/97 - no classes
Mid-term - 10/13/1997
10/17/97 - last day to drop a class
10/31/1997 - no classes
11/27,28/1997 - no classes
12/8/97 - last class
Final exam - 12/12/1997