CS152L Computer Programming Fundamentals
University of New Mexico - Summer 2008

Syllabus

June 9, 2008

1 Instructor

Matthew J. Barrick, M.S. <barrick@cs.unm.edu>
http://www.cs.unm.edu/~barrick
Office: Farris Engineering Center 319
Phone: (505) 277-3052
Office Hours: TBD

2 Schedule

Lecture/Lab: Mon, Tues, Wed, Thurs 12:30pm - 1:45 pm, DSH 141

3 Catalog Description

152L. Computer Programming Fundamentals for Computer Science Majors. (3)
An introduction to the art of computing. Intended for Computer Science majors or minors. The objective of the course is an understanding of the relationship between computing and problem solving.

Prerequisites: MATH 150. Three lectures, 1 hr. recitation.

4 Course Overview

This course is intended to introduce computer programming as a powerful tool for solving complex problems. This semester, many of our programming assignments and examples from class will be focused on multimedia and the techniques behind today's complex media manipulation software. In addition, we will discuss why it is important for us to know how to utilize the vast amount of computing power that is readily available to us today, and how different types of computer systems may be useful to you.

Once this class is completed, students will be able to write moderately complex computer programs to solve interesting problems, and will be well prepared for continued course work in their respective disciplines; wherever computation may be needed. Our goal is to provide a solid base for understanding most of the basic computational problems that you may encounter in your career, and how to approach them.

This is the first programming class that computer science majors at the University of New Mexico

are required to take toward their degree. Students interested in the Computer Science majors need to complete the class with a grade of B- or better in order to later be admitted to the major. However, note that your individual departments may have other requirements on GPAs, etc. that you must follow.

5 Prerequisites

Math 150 recommended, higher calculus, or instructors permission.

If you have been given permission to take this class without the formal prerequisites, you are responsible for learning any needed material.

6 Required Textbook

Note! Students do not need to buy both books: CS & MIS students, please purchase the Java version only, IFDM Students please purchase the Python version only

Introduction to Computing and Programming with Java: A Multimedia Approach
Guzdial, Mark and Ericson, Barbara
ISBN-10: 0131496980, ISBN-13: 978-0131496989
Bookstore price: $94.00 (new)

Introduction to Computing and Programming with Python: A Multimedia Approach
Guzdial, Mark and Ericson, Barbara
ISBN-10: 0131176552, ISBN-13: 978-0131176553
Bookstore price: $94.00 (new)

7 Academic Honesty

The University policy on academic honesty is contained in the *Pathfinder* (`http://pathfinder.unm.edu`). You should review this policy if you are unfamiliar with it. All assignments, quizzes, and examinations in this class are to be completed on an individual basis. Any work you hand in for this class must your own original work. Any work that is not your own should be clearly labeled as such.

Do not, under any circumstances, share source code or writings with your peers without my explicit permission. Students can *verbally* discuss assignments outside of class. While discussing how a particular problem was approached is fine, any copying of code, codeveloping of code, using the Internet to find solutions, or making your code readily accessible to others is not acceptable. This includes sending more than small code fragments (more than 3 lines for example) related to assignments to the class mailing list. If you have any doubt as whether a particular action crosses the line into academic dishonesty, ask your instructor for clarification. All assignments will be crosschecked for cheating!

Academic integrity violations will be dealt with promptly and harshly. Cheating will result in receiving an automatic F for the entire semester, and the case will be turned over to the appropriate authorities for further disciplinary actions. There will be no second chances.

Note that you are encouraged to work together for laboratory exercises and studying for quizzes and exams.

8 Assessments and Grading

There will be a number of programming assignments, quizzes, and exams throughout the semester. You are responsible for all material covered in class on assignments, quizzes, and for the exams. Requests for regrades will be honored within one week from the day the assignment was returned to you. After that one week, no regrades will be accepted.

Grades are broken down as follows:

- Quizzes: 10%
- Midterm Exam: 20% (to be given on or about July 3)
- Final Exam: 30% (to be given on or about July 31)
- Programming Assignments: 35% (approximately 4-5)
- Class Participation: 5%

Final grades will be assigned on a 10-point scale (90.0-100=A, 80.0-89.9=B, etc.). I reserve the right to further lower the cutoffs for these grades as necessary, though the requirements will not be raised.

You are welcome to contact me at any point throughout the semester to see how your grade stands and what can be done to improve it. This is especially encouraged if you are in anyway concerned about your grade or considering dropping the class on account of your performance.

8.1 Quizzes

You should expect there to be an in-class announced quiz every week (generally on Thursdays) unless there is an exam scheduled for that week. These quizzes will focus on the material covered in the prior week. The goal of the quizzes is to make sure that students are keeping up with the material being presented in class. The material on the quizzes will be basic and direct, though it will give you examples of the type and format of questions that will appear exams though they will be easier questions.

8.2 Exams

Exams will be closed book, notes, and computer. They will be cumulative and you will be given the entire class period to complete them. Quizzes will provide sample questions to base you studies on. There will be no in-class review time for exams, though questions concerning what will be covered and particular topics will be always be answered. Note the questions will be harder than those on the quizzes, and will be focused more on applying what you have learned than just regurgitating it.

8.3 Programming Assignments

You should expect a programming assignment every 1-2 weeks, generally due on Monday. These assignments will demonstrate your ability to apply what you are learning in class to solving problems on your own. However, please ask questions early and often about them.

Programming assignments are to be completed individually by each student. It's important to know that this class requires a substantial amount of time outside class to complete the programming assignments. DO NOT wait until the last minute to start the programs as you will most likely not be able to finish them on time. If you start early, you should have plenty of time to correct errors with your program, and improve it to get a better grade. As you will learn, finding and correcting problems with a computer program *always* takes longer than expected.

You are expected to compile your program and test it on a variety of inputs before handing it in. Programs that do not compile may receive a zero based solely on that fact. If your program compiles and runs, though contains some errors, document them with your hand-in. Documentation that makes it clear that you know the specific problems with your program will get more credit than the same program without such documentation.

9 Late Policy

Assignments will be due via electronic submission (details will be provided with your first assignment) by 11:59PM on the due date. No late assignments will be accepted for a grade. Assignments submitted within the period 24 hours proceeding the deadline will be graded so as to provide feedback to students *but no credit will be given for such assignments.*

10 Attendance and Class Participation Policy

You are expected to be regular and punctual in class attendance. Attendance in class is mandatory and attendance will be taken regularly. If you need to miss class you should inform the instructor in advance. You have three unexcused abcenses over the semester. If you miss more classes than that without a valid excuse, you must schedule a time to meet with the instructor to discuss your attendance, and you may be dropped from the class.

It is your responsibility to make prior arrangements with the instructor for any foreseeable absence or inability to make an assignment due date as far ahead of time as possible. If there are unforeseeable and/or extraordinary circumstances, bring documentation of the situation and we will work something out.

You are expected to be prepared to interact with the class during lecture, this includes completing reading assignments in the textbook prior to class. You are ultimately responsible for all materials covered in lecture whether you attended or not. Please note that all material covered in class, may not be available in the textbook.

While class will take place in a computer lab, you are expected to use the computer only for taking notes, trying out examples, and lab exercises. Reading your email, surfing the web, chatting with friends is inappropriate, and is a clear indication that you are not participating in class. I will be watching screens during lab exercises in an effort to help individuals and better direct my instruction, assume everything on your screen may be read as I walk by, and we will both be happier.

As a courtesy to other students please restrict activities such as eating and talking on the phone to somewhere outside the classroom. Also, please turn your cell phones off or to vibrate during class hours. There will be a very low tolerance for ringing cell phones.

11   Computer Access/Setup

Class will be held in the computer lab in Dane Smith Hall (DSH141) and you will have access to the computers there. These computers run Windows XP and we will use this as the development platform for all our programs. In order to access these computers you will need to have your UNM NetID. You should already have it available since you were able to register for this class, but in case you do not, make sure to get one at `netid.unm.edu`. All the software we are using for program development is freely available from the Web.

It is recommended that you use a portable USB flash drive or simpler device to keep your work on. This will allow you move between computers more easily, take your work home, and avoid disk space restrictions on your UNM NetID account.

Andree Jacobson, a professor who has taught this class a number of times before, has be gracious enough to share his teaching materials with and give me permission to use them for this class. Many of the handouts, assignments, and even portions of this document are his work, and I am grateful for his generosity. (See, even I have to give credit when it is not entirely my own work).