CMPS 221 - Programming Fundamentals
Sections 7 and 8 - Fall 2015

Instructor Information
Instructor: Austin Chavez
Email: austin@cs.csubak.edu
Office: Sci III Rm 325
Office Hours: MW 6:00 PM - 7:00 PM
Website: http://www.cs.csub.edu/~austin

Lecture: MWF 12:45pm - 01:55pm
Lab: Th 12:45pm - 03:15pm
Location: SCI III Rm 311

Course Description
Introduces the fundamentals of procedural programming. Topics include: data types, control structures, functions, arrays, and standard and file I/O. The mechanics of compiling, linking, running, debugging and testing within a particular programming environment are covered. Ethical issues and a historical perspective of programming within the context of computer science as a discipline are given. Prerequisite: MATH 85 or satisfaction of ELM.

Units and Contact Hours
5 quarter units. 4 units lecture (200 minutes), 1 unit lab (150 minutes).

ABET Outcome Coverage
3b. An ability to analyze a problem, and identify and define the computing requirements and specifications appropriate to its solution.

Laboratory and homework assignments will require analysis of the problem for successful completion of the assignments.

3c. An ability to design, implement and evaluate a computer-based system, process, component, or program to meet desired needs. An ability to understand the analysis, design, and implementation of a computerized solution to a real-life problem.

Laboratory and homework assignments require analyzing the presented problems, designing a solution to those problems, and implementing the solution in a high-level programming language.
ACM/IEEE Body of Knowledge Topics

(CS-PF1/CE-PRF1,2) Fundamental programming constructs and paradigms
(CS-PF2/CE-PRF3) Algorithms and problem solving
(CS-PF3/CE-PRF4) Data structures (Introduction: basic types, strings and arrays)
(CS-SP1/CE-PRF0) History of computing

Required Textbook

You may use older editions of the text if that’s more convenient for you.

Starting Out with C++: From Control Structures Through Objects. Tony Gaddis.
Pearson, 2014.

Material Covered

Chapter 2 Introduction to C++
Chapter 3 Expressions and Interactivity
Chapter 4 Making Decisions
Chapter 5 Loops and Files
Chapter 6 Functions
Chapter 7 Arrays
Chapter 8 Searching and Sorting Arrays
Chapter 9 Pointers
Chapter 10 Characters, C-Strings, and More About the String Class
Chapter 11 Structured Data
Chapter 12 Advanced File Operations
Chapter 13 Introduction to Classes

A more detailed breakdown of topics by week is on the course webpage. If time is short some topics may have to be skipped.

Academic Integrity Policy

Refer to the Academic Integrity policy printed in the campus catalog and class schedule. Cheating will not be tolerated. It is fine to discuss and study in groups, but please don’t share code on assignments.

Walk-in Lab & Tutoring

Science III Rm 324 is the walk-in lab and has many computers with all the tools students need to work on their assignments while on campus. This room is also where students can get FREE tutoring from the several dedicated tutors who work there throughout the quarter.
Any students who wish to use the computers there are expected to sign in via the kiosk in the back corner; if the kiosk is inactive please inform a tutor or a faculty member.

**Grading**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Quizzes</td>
<td>10%</td>
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<tr>
<td>Labs</td>
<td>15%</td>
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<tr>
<td>Homeworks</td>
<td>15%</td>
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<tr>
<td>Exams (2)</td>
<td>15% each, 30% total</td>
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<tr>
<td>Final</td>
<td>30%</td>
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**Labs**

Labs are held every Thursday except on exam days are due the following day before midnight. Late labs will be accepted until the following Monday before midnight, but with a 20% deduction. These labs are designed to supplement your programming abilities and as such may consist of more than just programming assignments.

**Homework**

Homework will be assigned every Wednesday and is due the following Wednesday before midnight. Late homework may be accepted until the following Friday before midnight, but with a deduction of 15% per day. For homework you will be asked to complete some programming task using the coding skills taught in class.

**Quizzes**

Quizzes will be held every Friday and will generally be 5 questions based on the reading for the week. The lowest quiz grade will be dropped. These quizzes are mainly to reinforce basic concepts that the students need to understand. They will be 4 multiple choice with 1 short answer. I do not plan to offer any make up quizzes so if you know you are going to miss one, let me know in advance and we can make arrangements.

**Assignment Submission**

Assignments will be submitted by copying them into the appropriate location in the assignments directory by their due date. We will setup this directory in the first lab, before any assignments are due. Assignments are collected from this location at the exact due date, so it is important to complete them beforehand. This process is automated so I won’t negotiate with you on late assignments.

**Exams**

Exam I will tentatively be given on October 7 (written) and October 8 (coding).
Exam II will tentatively be given on October 28 (written) and October 29 (coding).
Exams have a written portion and a coding portion. The written portion will consist of multiple choice and short answer. The coding portion will consist of a choice of programs
to be completed in the given time. There will be review sessions the Monday before exams.

**Final**

Finals are held from November 23-25. Our final will probably be on **November 23 from 01:00 P.M. - 03:30 P.M. in SCI III Rm 311** though this may change if there are conflicts with other classes. The final will be cumulative, but with an emphasis on material since the second exam.

**Services for Students with Disabilities**

To request academic accommodations due to a disability, please contact the Office of Services for Students with Disabilities (SSD) as soon as possible. They may be reached at 661-654-3360 (voice), or 661-654-6288 (TDD). If you have an accommodations letter from the SSD Office, please present it to me during my office hours or email me as soon as possible so we may discuss the specific accommodations that you might need in this class.

**Syllabus may be updated throughout the quarter**

**Latest Revision: 10/03/2015**