



CS135 – Computer Science I Fall 2015

Instructor: Laura Pike
Email: laura.pike@gbcnv.edu
Phone: 775-753-2288
Office: HTC 131
Office Hours: Mon & Wed. 1:30–2:30pm via Cranium Café
Tus. 7-8pm via Cranium Café
Thur 9-10 am via Cranium Café
Monday 9:00-10:00 via Big Blue Button



Textbooks: This is an interactive textbook available through WileyPLUS. When you first access content for this textbook within WebCampus, you will link to the WileyPLUS website to create an account (if you do not currently have one), and purchase an access code. If you would like to have the physical textbook in your hand, you may purchase it separately; ISBN: 978-0470383285, Cay Horstmann, Timothy A. Budd, *Big C++, second edition*. John Wiley & Sons, Inc., 2009.

Go to schedule online, and find CS 135, click on Details link, and then the View Textbooks link. Books are available at the college bookstore or Search using the title or ISBN number at various discounters / used book dealers.

Catalog Description:

This course is an introduction to modern problem solving and programming methods. Emphasis is placed on algorithm development. A special focus will be on procedural and data abstraction, emphasizing design, testing, and documentation. (3 credits)

Course Prerequisites: MATH 126 or higher. May be taken concurrently with MATH 126.

Course Description:

This hands-on course is designed to introduce you to programming and computer science. The course's primary focus will be on problem solving with secondary focus on algorithm development, design, and programming concepts. Lectures, projects and exercises reinforce skills as they are learned. Specific topic coverage includes: sequence of the processes, data representation, mathematical expressions, decision structure, repetition, functions, and arrays.

METHOD OF INSTRUCTION:

This class will be taught via Internet using Web Campus. You are expected to participate in on-line discussions, assignments, various quizzes, and exams, and other class activities. As an Internet based class, there are no traditional lectures, discussions, or labs. In lieu of lectures I will

create various posts, video lectures, and link supplementary materials as appropriate which you are expected to review each week. Programming assignments are accomplished by the use of **Bloodshed Dev C++ programming environment** (a free download). Some lectures may be accompanied with podcasts which will be linked to this online syllabus for you to download. These podcasts will be recorded in the MP4 format and can be listened to using any Windows, Mac, or Linux computer or with an MP4 player. I will also post potential discussion ideas and comments which you will be expected to respond to. I will read and assess your posts as well as comment on them if necessary for clarification purposes.

AN IMPORTANT NOTE ABOUT ONLINE CLASSES:

1. Do not assume that online classes are easier than traditional "face-to-face" classes.
2. Online classes can actually be more difficult than traditional classes. They require constant motivation and self-direction on the part of the student.
3. You are responsible for reading, studying, asking questions, completing assignments, being organized, and staying on schedule.
4. Instead of classroom discussions you will be expected to post your own college quality written comments on one topic related to the class readings as assigned as well as respond to your fellow students' comments.

GENERAL EDUCATION OBJECTIVES & STUDENT LEARNING OUTCOMES

This course will introduce the concepts of Computer Science and prepare a student with problem solving skill required in most engineering fields of study. It is designed as a transferable course for a baccalaureate degree. In addition to degree requirements, the faculty of GBC has established a goal to ensure that all students graduating with either an associate's or bachelor's degree have had the opportunity to develop an awareness of and abilities in specific areas. These areas are detailed in the GBC General Catalog. CS 135 is a General Education Technology Area class option, and therefore has particular emphasis with the following General Education Objectives.

COMMUNICATION SKILLS:

Students will be responsible for completing weekly assignments involving oral and written forms of communication, embracing discussions, reading, listening, and accessing information.

CRITICAL THINKING:

The progression of this class through the semester requires creative, logic, quantitative reasoning, and inquiry as the means towards understanding problem solving.

Quantitative Ability Element: Throughout the semester, students will demonstrate quantitative ability with a variety of programming concepts. A few examples are assignment statements, expressions, and looping.

Independent Thought: Throughout the semester, students will demonstrate logic and visual thinking in the creation of algorithms necessary to solve a problem.

Scientific Understanding: Throughout the semester, students will demonstrate the understanding of programming languages and the elements common to them.

PERSONAL AND CULTURAL AWARENESS:

Students will gain an understanding of the roles of individuals and groups as it pertains to the technological society.

Sense of the Individual in Society: Students will demonstrate the value of programming as an element of efficiency and social progress through assignments.

Sense of the Past: Students will gain an understanding of the technological advances that programming has provided to society.

Sense of Accountability: Students will gain an understanding of computer ethics as it pertains to computing professionals.

TECHNOLOGICAL UNDERSTANDING:

The primary tools used in this class will be technology based: Computer systems (hardware and software), and programs and programming languages (specifically C++).

STUDENT RESPONSABILITIES:

Be able to access the class website through Web Campus. Contact the Technology Help Desk - Email: helpdesk@gwmail.gbcnv.edu Phone: 775-753-2167

1. Have and maintain High Speed Internet access throughout the semester.
2. Have and maintain all software required for the class throughout the semester.
3. Have and maintain a virus-free computer throughout the semester.
4. Have knowledge of Windows and file handling.

LEARNING OUTCOMES

The successful student in this class will have and be able to:

1. Perform problem solving techniques by creating algorithms
2. Design and create a program using sequencing
3. Identify and use the various data types
4. Create assignment statements and mathematical expressions
5. Create decision structures and repetitive loops
6. Identify and design functions
7. Create and use arrays

Learner Outcome Measurements	
Measurement Method	Learner Outcomes
Class Discussion via web posts	1, 2, 3, 4, 5, 6, 7
Lab assignments	1, 2, 3, 4, 5, 6, 7
Project assignments	1, 2, 3, 4, 5, 6, 7
Written examinations	1, 2, 3, 4, 5, 6, 7

Class Policies & Procedures

GRADING POLICY: Grading in this course is based upon the following:

Discussions	10%
Assignments	50%
Capstone Project	10%
Tests	30%

The grades will be calculated on a percentage scale and then recorded as the corresponding grade point value as shown below.

<u>Percentage</u>	<u>Grade Point Value</u>	<u>Letter Grade</u>
94-100	4.0	A
90-93	3.7	A-
87-89	3.3	B+
84-86	3.0	B
80-83	2.7	B-
77-79	2.3	C+
74-76	2.0	C
70-73	1.7	C-
67-69	1.3	D+
64-66	1.0	D
60-63	.7	D-
<60	0.0	F
I	Incomplete – See below	
W	Withdrawal – See below	

If, for some reason, you feel that you cannot complete the course, you must officially **(W)**ithdraw from the class by the Monday of the tenth week. If you do not officially withdraw by the drop deadline, your grade will be based on the assignments you have completed averaged with zeros for uncompleted assignments. To withdraw from the class, you must contact the instructor and complete the Add/Drop form available online or at your local center. The “W” is not used in computing your cumulative grade-point average. It will appear, however, on your transcript, and will always be a permanent part of it.

An **(I)**ncomplete will be given only to a student who has completed $\frac{3}{4}$ of the course with a grade of “C” or better, but is unable to complete the class for good cause. You must arrange for the incomplete with your instructor and acknowledge the statement of work you must complete to receive a final grade. You have until March 15th for Fall Semesters and October 15th for Spring Semesters to complete the work for a final grade. An incomplete not made up within this time period will have be assigned a grade of “F”.

EXAM & QUIZ PROCEDURES: All exams and quizzes will be objective, e.g. true/false, multiple choice, fill-in the blank, etc, and will be conducted using Web Campus.

ATTENDANCE POLICY: The instructor must agree in advance to any excused absences unless there are strong extenuating circumstances. Three (3) unexcused absences can result in a failing grade, in an on-line class an absence is one week when you do not participate in class or contact the instructor.

OTHER POLICIES: Plagiarism and other forms of academic dishonesty will not be tolerated and can result in a failing grade. The student conduct policy stated in the GBC 2011-2012 Catalog will be enforced. This syllabus is not a contract and is subject to reasonable changes as the class proceeds.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES: Great Basin College is committed to providing equal educational opportunities to qualified students with disabilities in accordance with state and federal laws and regulations, including the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. A qualified student must furnish current verification of disability. The Director of Services for Students with Disabilities will assist qualified students with disabilities in securing the appropriate and reasonable accommodations, auxiliary aids and services. For more information or further assistance, please call (775) 753-2271.

COURSE SCHEDULE

Please note: this schedule is subject to change based on class progress & other factors.

Week 1:	<i>Class Introduction</i> <i>Chapter 1</i>	Install Bloodshed Dev C++ IDE Introduction to C++
Week 2:	<i>Chapter 2</i>	Fundamental Data Types
Week 3:	<i>Chapter 3</i>	Decisions
Week 4:	<i>Chapter 3</i>	Loops
Week 5:	<i>Chapter 4</i>	Functions
Week 6:	Test 1 <i>Chapter 6</i>	Written exam will be released on WebCampus Vectors and Arrays
Week 7:	<i>Chapter 6</i>	Vectors and Arrays continued
Week 8:	<i>Chapter 7</i>	Pointers
Week 9:	<i>Chapter 9</i>	Streams
Week 10:	Test 2 <i>Chapter 5</i>	Written exam will be released on WebCampus Classes
Week 11:	<i>Chapter 8</i>	Inheritance
Week 12:	<i>Chapter 10</i>	Recursion
Week 13:	<i>Chapter 11</i>	Sorting and Searching
Week 14:	Test 3 <i>Project</i>	Written exam will be released on WebCampus Capstone Project
Week 15:	<i>Project</i>	Capstone Project
Week 16:	<i>Finals Week</i>	Capstone Project due