COSC/BCIS/ITSC/ITSE/INEW 1436 Programming Fundamentals I

Course Syllabus

Fall 2017

Instructor contact information

Instructor:	Javad Ameri	**Office Phone:**	
Office:	Virtual	**Office Hours:** (or hours of availability)	By appointment
E-mail:	Javad.amerisianaki@hccs.edu	**Response Time:**	**24 – 48 hours**

Welcome to

Course Title:	Programming Fundamentals I	**Term and Year:**	**Fall 2017**
Course Subject:	COSC 1436		
Course Section:	38615	**Class Days & Times:**	Online
Credit Hours:	3		
Lecture Hours:	2 / WK	**Class Room Location:**	Online
Lab Hours:	3 / WK		
Total Contact Hours: (All hrs. x 16)	80		

Class Web Page	https://eagleonline.hccs.edu/
Course Description:	This is an online course. This syllabus is current as of the date at the bottom of the page, but subject to change. Updates, if any, will be distributed via the Canvas Eagle online System. Acceptance Guidelines (For Distance Education students): Not all people are well suited for independent study. A general set of guidelines is used to determine if you should be accepted into the Distance Education sections of COSC1436.
Course Prerequisite(s)	These guidelines will require you to: 1. Be self-motivated or self-starter: This usually means having completed at least 6 credit hours of college and having a cumulative GPA of 2.5 or better. Exceptions should be discussed with the instructor. 2. Meet the course prerequisites: This means being ready for ENGL1301 and MATH1314 (i.e. no remediation needed) and high school computer literacy or equivalent. 3. Already be familiar with microcomputers by having used: a. Windows 95, Windows 98, Windows ME, Windows 2000 Pro, Windows XP, Windows Vista or Windows 7 b. A word processing software

	product c. An Internet browser d. Files and folders. This means that you should be able to create, rename, delete, locate, move and copy files and folders. You should also be familiar with switching between the icon view and the details view in My Computer/Windows Explorer. A basic understanding of the above file management skills is required. 4. Have access to computer resources: a. either, have adequate hardware with software installed on a computer at home or work including adequate Internet access with DSL or cable speed b. or, be able and willing to use open lab times provided by the college to complete the course. c. Please note, the network or computer going down the night before an assignment is due is NOT a valid excuse. Assignments have ample lead time before the "Due Dates" to allow for these types of situations. Start work early and submit your work early and you should not have a problem.
Students Learning Outcomes (SLOs)	Explain the purpose of computer programming language • Identify and explain programming development lifecycle including planning, analysis, design, development, and maintenance. • Analyze problems. • Design algorithms using pseudocode, flowcharts, and structured charts Explain and use programming language elements including syntax, data types, conditional statement, control structures, procedures, arrays, classes, and objects. Create a program based on specification. • Use Integrated Development Environment (IDE) for the editing, building, debugging, and testing of programs. • Apply proper documentation and formatting of source code
Instructional Materials: **Textbook**	Textbook: • ***C++ PROGRAMMING: Program Design Including Data Structure*** • **Author: D. S. MALIK** • **ISBN-13: 978-1-285-85275-1 – Seventh Edition** Textbook: There will be two purchasing options. HCC bookstore and the direct-to-student URL that was set up specifically for HCC. These books are custom books specifically designed for HCC and are heavily discounted. For students taking only 1436 there is a textbook bundle available on direct-to-student URL. The bundle for 1436/1437/2436 will be available both at bookstore and on the site. The larger book is the best purchase option for those students thinking of taking all 3 courses. It is marginally more expensive that the smaller text. The access code included in both bundles is mandatory and must be activated within first two weeks of class period, we do not use CourseMate, this is free from publisher for your students. For the link to text book, go to course on HOME PAGE CANVAS. Flash Drive: You will need a 128MB or larger flash drive

	to save your work. [NOTE: Today you cannot buy anything new that is smaller than 1GB.] We will use this flash drive to save your programs and assignments. Eagle on line Delivery of Instruction: All sections of the course taught by this instructor employ computerized internet delivery of course materials by using Eagle on line (educational delivery software). You will complete quizzes, submit lab assignments and do normal emailing within Eagle on line. Compiler: MS Visual Studio and Visual C++ is recommended this is the link to the free download, or scroll down to Visual C++ http://www.microsoft.com/express/download/default.aspx Related Material: This course requires the use of C++ compiler software (one is available free via the internet and we provide a free compiler within the course materials. More details are provided with the course materials) and word processing or specifically text processing software (students usually use Word 2007, Word 2003, Word Pad or Note Pad; all by Microsoft
Other Required Materials	**Compiler:** MS Visual Studio and Visual C++ is recommended this is the link to the free download, or scroll down to Visual C++ http://www.microsoft.com/express/download/default.aspx **Related Material:** This course requires the use of **C++ compiler software**
Topics Covered	

Topic	Textbook Chapter
An overview of computers and programming	**1**
ELEMENTS OF C++	**2**
INPUT / OUTPUT	**3**
CONTROL STRUCTURES I – (SELECTION)	**4**
CONTROL STRUCTURES II - (REPETITION)	**5**
USER-DEFINED FUNCTIONS I	**6**
USER-DEFINED FUNCTIONS II	**7**
ARRAYS AND STRINGS	**8**

Instructor Grading Criteria, Guidelines, and Policies

Grading Criteria

Your grade will be determined by the following	Points	Percent of Final Average
Syllabus Quiz	5	5%
Chapter Quizzes	15	15%
Programming Exercises	20	20%
Chapter Exercises	20	20%
Mid Term Exam	20	20%
Final Exam	20	20%
Total	100	100%

HCC Grading Scale	The HCC grading scale is: A = 100 – 90 ;……..4 points per semester hour B = 89 – 80: ……3 points per semester hour C = 79 – 70: ……2 points per semester hour D = 69 – 60: ……1 point per semester hour 59 and below = F……..0 points per semester hour IP (In Progress) ……0 points per semester hour W(Withdrawn)……0 points per semester hour I (Incomplete)……0 points per semester hour AUD (Audit) ……0 points per semester hour IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses. To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM" and "I" do not affect GPA.
Communication with Instructor	By Email only
HCC Resources	Link to COSC tutoring lab schedules will be posted on Canvas Eagle Online once it becomes available
HCC System Policies Student Services Policies web site: http://www.hccs.edu/district/students/student-handbook/	
HCC Policy on Class Attendance Policy	Students are expected to attend class meetings on a regular basis and to participate in class and online activities. Students may be withdrawn administratively if they don't meet the State mandated attendance policy. You are responsible for materials covered during your absences. Class attendance is checked daily. Although it is your responsibility to drop a course for nonattendance, the instructor has the authority to drop you for excessive absences. For complete information regarding Houston Community College's policies on attendance, please refer to the HCC Student Handbook.
HCC Policy on Course Withdrawal	If you feel that you cannot complete this course, you will need to withdraw from the course prior to the final date of Nov 3, 2017. Students must withdraw by the withdrawal deadline in order to receive a "W" on a transcript. Final withdrawal deadlines vary each semester and/or depending on class length, please visit the

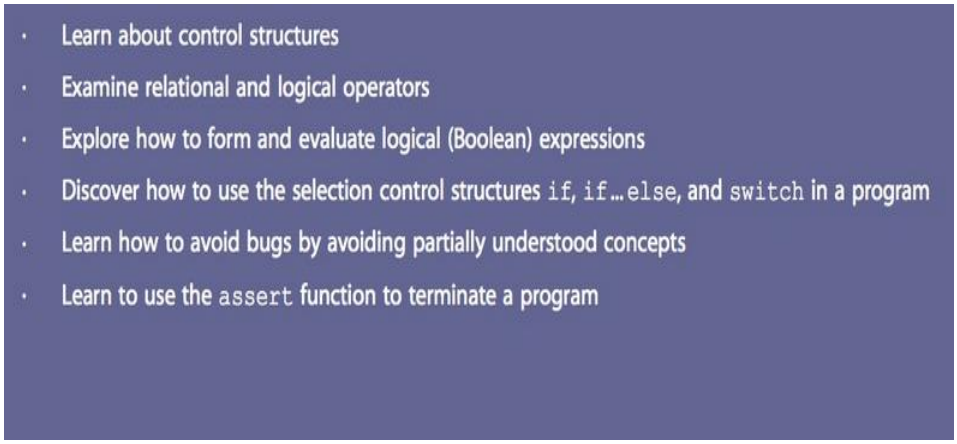
	online Academic Calendar, any HCC Registration Office, or any HCC advisor to determine class withdrawal deadlines. Be certain you understand HCC policies about dropping a course and consult with a counselor/advisor to determine if withdrawing is in your best interest. It is your responsibility to withdraw officially from a class and prevent an "F" from appearing on your transcript. Senate Bill 1231 and limits the number of W's a student can have to 6 classes over the course of their entire academic career. This policy is effective for students entering higher education for the first time in fall 2007 and subsequent terms. Withdrawals accumulated at any other Texas public higher education institution count toward the 6 course total. Withdrawals for certain circumstances beyond the students control may not be counted toward the 6-drop limit. In addition, withdrawing from a course may impact your financial aid award or eligibility. Contact the Financial Aid Office or website to learn more about the impact of withdrawing on financial aid. For complete information on HCC Course Withdrawal policy including the three-peat rule refer to the HCC Student Handbook.
HCC Policy Statement on Academic Honesty	A student who is academically dishonest is, by definition, not showing that the coursework has been learned, and that student is claiming an advantage not available to other students. The instructor is responsible for measuring each student's individual achievements and also for ensuring that all students compete on a level playing field. Thus, in our system, the instructor has teaching, grading, and enforcement roles. You are expected to be familiar with the University's Policy on Academic Honesty, found in the catalog. What that means is: If you are charged with an offense, pleading ignorance of the rules will not help you. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion. For more information on HCC policy on academic honesty refer to the HCC student handbook at http://www.hccs.edu/district/students/student-handbook/
HCC Policy Statement-- Accommodations Due to a Qualified Disability	HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning

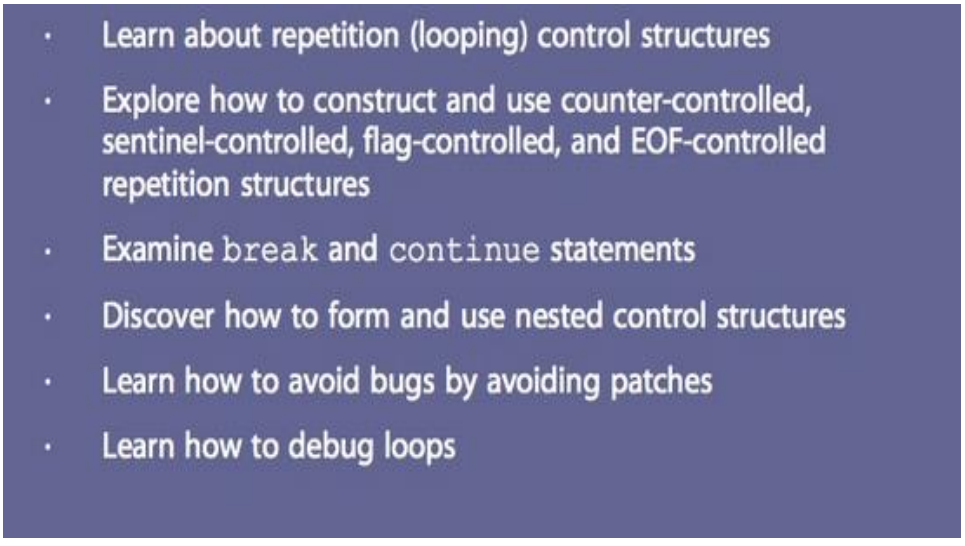
	environments consistent with federal and state law. For more information, please go to http://www.hccs.edu/district/students/disability-services/
HCC Policy Statement--Title IX	Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to: *David Cross* *Director EEO/Compliance* *Office of Institutional Equity & Diversity* *3100 Main* *(713) 718-8271* *Houston, TX 77266-7517 or Institutional.Equity@hccs.edu*
HCC Policy Statement--Campus Carry	At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11 2015). For more information, visit the HCC Campus Carry web page at http://www.hccs.edu/district/departments/police/campus-carry/."
HCC Policy on vaccination against bacterial meningitis.	Texas Senate Bill 1107, passed in May 2011, requires that new HCC students and former HCC students returning after an absence of at least one fall or spring semester who are under the age of 22 are required to present a physician-signed certificate showing they have been vaccinated against bacterial meningitis. For more information and the list of exemptions, please visit the HCC page at: http://www.hccs.edu/district/students/apply/meningitis/
EGLS3 -- Evaluation for Greater Learning Student Survey System	At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you will be asked to answer a short online survey of research-based questions related to instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.
Attendance	Students who have not attended class by the Official Day of Record,9/12/2017, will be administratively withdrawn from the class, no exceptions.

Chapter 1:	An overview of computers and programming
Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter	**Digital & Information Technology** HCC HOUSTON COMMUNITY COLLEGE Houston Community College • Learn about different types of computers • Explore the hardware and software components of a computer system • Learn about the language of a computer • Learn about the evolution of programming languages • Examine high-level programming languages • Discover what a compiler is and what it does • Examine a C++ program • Explore how a C++ program is processed • Learn what an algorithm is and explore problem-solving techniques • Become aware of structured design and object-oriented design programming methodologies • Become aware of Standard C++ and ANSI/ISO Standard C++

Chapter 2:	ELEMENTS OF C++
Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	• Become familiar with the basic components of a C++ program, including functions, special symbols, and identifiers • Explore simple data types • Discover how to use arithmetic operators • Examine how a program evaluates arithmetic expressions • Learn what an assignment statement is and what it does • Become familiar with the `string` data type • Discover how to input data into memory using input statements • Become familiar with the use of increment and decrement operators • Examine ways to output results using output statements • Learn how to use preprocessor directives and why they are necessary • Learn how to debug syntax errors • Explore how to properly structure a program, including using comments to document a program • Learn how to write a C++ program

Chapter 3	**INPUT / OUTPUT**
Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	• Learn what a stream is and examine input and output streams • Explore how to read data from the standard input device • Learn how to use predefined functions in a program • Explore how to use the input stream functions `get`, `ignore`, `putback`, and `peek` • Become familiar with input failure • Learn how to write data to the standard output device • Discover how to use manipulators in a program to format output • Learn how to perform input and output operations with the `string` data type • Learn how to debug logic errors • Become familiar with file input and output
Chapter 4	**CONTROL STRUCTURES I – (SELECTION)**

Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	

Chapter 5	**CONTROL STRUCTURES II - (REPETITION)**
Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	
Chapter 6	**USER-DEFINED FUNCTION I**

Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	• Learn about standard (predefined) functions and discover how to use them in a program • Learn about user-defined functions • Examine value-returning functions, including actual and formal parameters • Explore how to construct and use a value-returning, user-defined function in a program • Learn how to construct and use void functions in a program • Discover the difference between value and reference parameters • Explore reference parameters and value-returning functions • Learn about the scope of an identifier • Examine the differences between local and global identifiers • Discover static variables • Learn how to debug programs using drivers and stubs • Learn function overloading • Explore functions with default parameters

CHAPTER 7	**USER-DEFINED FUNCTIONS II**
Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	• Learn about standard (predefined) functions and discover how to use them in a program • Learn about user-defined functions • Examine value-returning functions, including actual and formal parameters • Explore how to construct and use a value-returning, user-defined function in a program • Learn how to construct and use void functions in a program • Discover the difference between value and reference parameters • Explore reference parameters and value-returning functions • Learn about the scope of an identifier • Examine the differences between local and global identifiers • Discover static variables • Learn how to debug programs using drivers and stubs • Learn function overloading • Explore functions with default parameters
CHAPTER 8	**ARRAYS AND STRINGS**

Activities: • Chapter reading • Study Quick Review at the end of chapter • Provide answers for Exercises at the end of chapter • Write assigned Programming Exercises	• Learn about arrays • Explore how to declare and manipulate data into arrays • Learn about "array index out of bounds" • Become familiar with the restrictions on array processing • Discover how to pass an array as a parameter to a function • Learn how to search an array • Learn about C-strings • Examine the use of string functions to process C-strings • Discover how to input data into—and output data from—a C-string • Learn about parallel arrays • Discover how to manipulate data in a two-dimensional array • Learn about multidimensional arrays