

# Computer Science Technology Department

Houston Community College

Department Phone Number 713-718-5731



## COSC 1436 Programming Fundamental I Course Syllabus

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<b>Course Reference Number (CRN)</b>	75749		
<b>Course Description:</b>	Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.		
<b>Course Prerequisite(s)</b>	Must be at college-level skills in reading and writing; place into MATH 1314 College Algebra or higher.		
<b>Course Semester Credit Hours (SCH) (Lecture, Lab)</b>	4 (3 Lecture, 3 Lab.)		
<b>Course Location/Times</b>	Spring Branch Campus Room 120, TR 12:00 – 2:00 PM	<b>Total Course Contact Hours</b>	96
<b>Instructional Materials (Textbook)</b>	Course is taught in C++. Textbook information will be provided by individual instructor <ul style="list-style-type: none"> <li>▪ For <b>C++</b>: Starting out with C++ Early Objects 7th Edition (formerly "Alternate Version"). Authors: Gaddis, Walters &amp; Muganda. ISBN: 10:0136077749, 13:9780136077749. Publisher: Addison-Wesley.</li> <li>▪ For <b>Java</b>: Starting Out with Java from Control Structures through Data Structures w/codemate. Authors: Tony Gaddis, Godfrey Muganda. ISBN: Bundle: 321491769. Publisher: Addison-Wesley.</li> <li>▪ For <b>C#</b>: C# Programming From Problem Analysis to Program Design. Author: Barbara Doyle. ISBN: 01423901460. Publisher: Cengage.</li> </ul>		
<b>Instructional Methods</b>	Face to Face, Web-enhanced (49% or less), Distance (100%)	<b>Type of Instruction (</b> Lecture/Lab, COOP, Practicum, or Lecture)	
<b>Course Length (number of weeks)</b>	16 or 12 Weeks		

# Course Requirement, Policy, and Course Calendar

<b>Instructor's Requirements</b>	<p><b><u>Complete Syllabus:</u></b> The course syllabus consists of this instructor provided section and three other items. Please click on the following links and print out the additional information:</p> <ol style="list-style-type: none"><li>1. <a href="#">Catalog Entry &amp; Text Book</a></li><li>2. <a href="#">Course Content</a></li><li>3. <a href="#">Standard Course Information</a></li></ol> <p>These three parts are prepared by the Computer Science Technology Department and are available on the department web site at: <a href="http://csci.hccs.edu">http://csci.hccs.edu</a> under "Course Listing" then "Catalog Course Descriptions" for the COSC1436 course. They are also linked inside the Blackboard Vista course under the "Syllabus" icon on the Course Contents menu item.</p> <p><b><u>Acceptance Guidelines (For Distance Education students):</u></b> 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. These guidelines will require you to:</p> <ol style="list-style-type: none"><li>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.</li><li>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.</li><li>3. Already be familiar with microcomputers by having used:<ol style="list-style-type: none"><li>a. Windows 95, Windows 98, Windows ME, Windows 2000 Pro, Windows XP, Windows Vista or Windows 7</li><li>b. A word processing software product</li><li>c. An Internet browser</li><li>d. Files and folders. This means that you should be able to <b>create, rename, delete, locate, move and copy</b> files and folders. You should also be familiar with switching between the <b>icon view and the details view</b> in My Computer/Windows Explorer. A basic understanding of the above file management skills is required.</li></ol></li><li>4. Have access to computer resources:</li></ol>

- 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.

**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.

**Blackboard Vista Delivery of Instruction:** All sections of the course taught by this instructor employ computerized internet delivery of course materials by using Blackboard Vista (educational delivery software). You will complete quizzes, submit lab assignments and do normal emailing within Blackboard Vista.

**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** (We have three to pick from: one compiler is bundled with your text book, 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).

**Student Attendance/Participation is Mandatory:** Students attending on-campus should be regularly attending class. For those taking the course as a Distance Education section of this topic, you must make satisfactory progress in this course. Students may be withdrawn, if in the opinion of the instructor, the student has fallen behind in their assignments and it is not reasonable to expect the student to complete the course during the semester. For both on-campus and distance education students; if you decide to quit participating in the course **before** the Last Day for Administrative/Student Withdraws, you should chat with the instructor. He can properly withdraw so that you will receive a W. If you quit participating in the course **after** the Last Day for Administrative/Student Withdraws, you will receive an F. This will apply to all students. Incomplete grades are rarely given.

Thus, all students need to be in regular contact with your instructor during the semester. For the Distance Education students, most of this contact will be electronically within the Blackboard Vista environment. Two exams will be given during the semester (Exam 1 and the Final Exam) that will require the Distance Education students to come on-campus to a Distance Education testing sites (with more information to be announced as test days approach).

**Instructor Participation:** I will normally enter the course via Blackboard Vista every business day (Monday thru Friday unless it's a Holiday), however for a variety of reasons (sick, out of town, computer broken, internet connection not working, etc.) I may not enter the course on a given day. Often I will enter the course more than once on a business day. I will usually enter the course on Saturday morning, but not always. Sometimes, I will enter the course on Sunday. Thus, it might appear that you have 24/7 instructor response and you could wrongfully expect immediate response to all your needs. I will try to respond quickly and you should normally have a response within 3 business days, so don't panic if you don't get a response immediately.

I will normally grade any lab assignments each Monday, Wednesday and Friday morning. Let's count – you turn in a lab assignment Friday afternoon, I am sick on Monday and don't grade your lab assignment until Wednesday morning – ½ business day on Friday, 2 business days for Monday and Tuesday, and ½ business day for Wednesday morning = 3 business days. Again, you should normally have a response within 3 business days, so don't panic if you don't get a response immediately.

Quizzes= will be graded on Fridays and you will have your results by Monday, if you do not see your grade by Monday, send me an e-mail.

However, on-campus exams (the first & second exam and **the final exam**) **will normally take 7 to 10 days after the window of availability to be graded because I will need to physically pick up the exams from the Distance Education Department after they have done their processing (usually 2 days).**

I will read all Blackboard Vista "Mail" every time I enter the course and normally will respond that same day. Once in a while a student's question requires a couple of days for me to research his question to allow me to formulate a good (correct) response.

**Final Grade:** Your final grade will be posted within your Blackboard Vista course; however official grades are provided to students by the Registrar and are available shortly after the end of the semester. There is no other official method of posting a student's final grade. Final grades will not be given over the telephone by either the professor or any HCCS employee. If you need an official transcript see the registrar and request a transcript be sent after posting of the grades for the semester.

During the course, your progress (quiz, lab and exams scores) will be reported to you via our "My Grades" feature within Blackboard Vista. You should check this regularly to confirm your progress in the course is current.

**US Mailing Address, Telephone and Email Address:** Make sure that your address is correct on your student ID card and that the system has your correct telephone and email information.

**Instructor Grading Criteria**

· 5%	Participation	(1 * 100 = 100 points)
· 20%	Quizzes	(10 * 20 = 200 points)
· 20%	Lab Assignments	(10 * 20 = 200 points)
· 15%	Exam 1	(1 * 150 = 150 points)
· 40%	Final Exam	(1 * 250 = 250 points)
<b>Total</b>		<b>900 Points</b>

One special note: **Failing the final with an exam score of less than 50% will cause you to fail the course regardless of what your grades have been on the assignments, quizzes and other exam.**

If you do not score at least 50% on the final, I assume you have not truly learned the materials in the course, thus you will fail the class.

The “Participation” portion of your grade will be determined by several factors, including (but not limited to):

- Entering the Blackboard Vista course regularly – at a minimum of every 3 days (twice a week).
- Answering all “Mail” every time you enter the course
- Reading new “Announcements” as they appear
- Reviewing new “Calendar” entries as they appear
- Reading all items posted to the “Discussions”
- Participating in “Discussions” as requested or appropriate
- Interacting with assigned email buddies/study groups – details provided later
- Using “Chat” rooms (which also have white boards) as needed
- Providing general information for the “Roster”
- Providing a picture for the “Roster” (optional)

The instructor has a feature called “Tracking” that shows your activity in the course by date and time. Do not try to bluff your way and lie about being seriously involved in learning course materials and have me look at the tracking and call your bluff. (See the bolded information about procrastinating within the next syllabus item.)

Collectively as a class (which includes on-campus and distance education students) you should all be working on the same materials (chapters) at the same time. The deadlines for lab assignments and quizzes will prevent procrastination. This will have several advantages:

1. Students will be able to interact with each other via Blackboard Vista “Mail” and “Discussions”. Additionally the “Chat” tool (with white board feature) is available for student interaction. Sharing questions and getting help from each other can be vital to your learning process. This will be part of the participation grade.
2. By necessity you will not be able to procrastinate. To succeed in this course you should complete chapters within a group (including the lab assignments and quizzes that are within each chapter) before you take the super-quiz for that group. Not doing so will set you up for failure. We don’t want you to get behind.
3. Thus, you will need to set for yourself a regular study schedule that should include between 12 to 15 hours per week. Remember this is a 3 lecture, 3 lab course that would normally meet on-campus for 6 hours of instructor contact per week. With an additional 1 to 1 ½ hours per week out of class for study for every hour in class (6 to 9 additional hours) your total hours of weekly participation in this course should be between 12 to 15 hours. Some of it spent on-line in Blackboard Vista and most spent doing reading, study and lab assignments (all of which can be done outside of Blackboard Vista). It is

suggested that you have a regular schedule (set dates and times – 3 to 4 times a week) to both visit the Blackboard Vista course on-line and to study.

During the summer term the pace is about 60% faster with approximately 20 to 25 hours of study per week. We suggest 3 to 4 hours of study daily; 6 days a week.

Procrastinating by not having a regular schedule of time to do an on-line Internet **delivered Distance Education course is the number one cause of poor performance and thus of student withdrawal. Surprise, not having regular study habits is also the number one cause of poor performance for students attending on-campus courses.**

4. If you run into difficulty, I can hopefully help you get back on track quickly. As with all good professors, I am concerned with having an appropriate student completion rate for any course that I teach. Overcoming problems helps to get more students to complete the course having learned the material well.

There are some disadvantages; they are:

1. You can't be a hermit. You will be required to enter Blackboard Vista regularly (at least twice a week) and participate in Blackboard Vista's "Mail", Discussions", etc.
2. Each lab assignment and quiz has a due date. You can't (or should not) wait until just before a super-quiz and cram to complete a several chapters.

**Deadlines:** Memory building activities, lab assignments and quizzes for the Foundations Topic Learning Group should be completed before the student takes the on-campus exam for that learning group. Memory building activities may be taken as many times as a student desires.

Each **lab assignment** (one assignment per chapter) has its own due date and if submitted after the due date the grade will be reduced to 50% of the grade earned on that lab. This penalty might be waived for the first couple of lab assignments in the course. Additionally, all lab assignments have a cut-off date and will not be accepted for grading after that date (you get a zero).

The **quizzes** for a given chapter have the cut-off date for that chapter. You may take each quiz up to three times and we count your best score. We suggest that you take the quizzes as you complete a chapter. The quizzes are all self-grading and thus the student has immediate feedback. However, a few students insist on waiting until the last available date to take the quizzes for a chapter and then will try to take the quizzes 2 times in a row. Beware! This insidious practice has been stopped! I have set a parameter on all of the quizzes that requires a 1 day (24 hour) wait before the student can take another attempt. Don't wait until the last day or you will have only one attempt at the quizzes for that chapter.

**Missed Exams:** Missed exam creates a serious problem. There is usually a 20% penalty for taking an exam late. If you miss an exam window of availability, contact your instructor via Blackboard Vista email and telephone.

**Schedule:** The tentative schedule is outlined below. Any changes will be announced within the Blackboard Vista course.

**NOTE: All lab assignments are usually due 5 days after the material for a chapter is covered, however *normally students should complete the lab assignment within a couple days of the date the chapter is covered.*** Distance Education students are paced as if they were on-campus students taking the course on a Tuesday/Thursday schedule and will need to complete materials on-time. Additionally, some of the due dates might fall on days when the college campus is closed (Spring Break, Easter and Thanksgiving) however, the internet connections to Blackboard Vista will normally be working and you will have access to the course for the submission of your assignments as well as taking quizzes, learning new materials, etc. You are in charge of your life and you should plan on completing materials and submitting them before the due dates to avoid any personal or religious conflicts that you might have with any of the due dates.

#### Course Calendar

Wk	Week Start	Description	Lab & Quiz Due Date	Lab & Quiz Cut-off Date
1	Jan. 18	Orientation - Introduction	N/A	N/A
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2	Jan. 25	Chapter 1 & 2	Feb. 17	Feb. 17
3	Feb. 1	Chapter 2	Feb. 24	Feb. 24
4	Feb. 8	Chapter 2 & 3	March 05	March 05
5	Feb. 15	Chapter 3	March 10	March 10
6	Feb. 22	Chapter 3 & 4	March 24	March 24
7	Mar. 1	Chapter 4	March 31	March 31
8	Mar. 6	<b>Exam 1</b>		
8	Mar. 22	Chapter 5	Apr. 23	Apr. 25
9	Mar. 29	Chapter 5 & 6	Apr. 7	Apr. 7
10	Apr. 5	Chapter 6	Apr. 14	Apr. 14
11	Apr. 12	Chapter 6 & 8	Apr. 21	Apr. 21
12	Apr. 19	Chapter 8	Apr. 28	Apr. 28
13	Apr. 26	Chapter 7	May 5	May 5
14	May 3	Chapter 7	May 5	May 5
<b>Final Exam Spring Branch Campus on May 12 (Room 120) From 12:00 PM – 2:00 PM</b>				

## Learning Objective, Students Learning Outcome, and Program Spec

**Note:** This section of the syllabus provides the general course learning objectives, the expected students learning outcome, the course scope in terms of the department program, and the instrument used to evaluate the course. If you have any question, contact the instructor or the department for answers.

<b>HCC Grading Scale</b>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="padding: 5px;">Grade</th> <th style="padding: 5px;">GPA Points</th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">A = 100- 90</td> <td style="padding: 5px;">4 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">B = 89 - 80:</td> <td style="padding: 5px;">3 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">C = 79 - 70:</td> <td style="padding: 5px;">2 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">D = 69 - 60:</td> <td style="padding: 5px;">1 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">59 and below = F</td> <td style="padding: 5px;">0 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">IP (In Progress)</td> <td style="padding: 5px;">0 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">W(Withdrawn)</td> <td style="padding: 5px;">0 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">I (Incomplete)</td> <td style="padding: 5px;">0 points per semester hour</td> </tr> <tr> <td style="padding: 5px;">AUD (Audit)</td> <td style="padding: 5px;">0 points per semester hour</td> </tr> </tbody> </table> <p style="margin-top: 10px;">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.</p>	Grade	GPA Points	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 points 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
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<b>Course Student Learning Outcomes (SLO):</b>	<ol style="list-style-type: none"> <li>1. Explain the purpose of computer programming language</li> <li>2. Identify and explain programming development lifecycle including planning, analysis, design, development, and maintenance.</li> <li>3. Analyze problems.</li> <li>4. Design algorithms using pseudo code, 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.</li> <li>5. Use Integrated Development Environment (IDE) for the editing, building, debugging, and testing of programs.</li> <li>6. Apply proper documentation and formatting of source code.</li> </ol>																				
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<b>Student Assignments</b>	Refer to the Course Calendar																				



<p><b>Student Assessment(s)</b></p>	<ol style="list-style-type: none"> <li>1. <b>Explain the purpose of computer programming language</b> Assessment criteria under development</li> <li>2. <b>Identify and explain programming development lifecycle including planning, analysis, design, development, and maintenance.</b> Assessment criteria under development</li> <li>3. <b>Analyze problems.</b> Assessment criteria under development</li> <li>4. <b>Design algorithms using pseudo code, 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.</b> Assessment criteria under development</li> <li>5. <b>Use Integrated Development Environment (IDE) for the editing, building, debugging, and testing of programs.</b> Assessment criteria under development</li> <li>6. <b>Apply proper documentation and formatting of source code.</b> Assessment criteria under development</li> </ol>
<p><b>Program/Discipline Requirements:</b></p>	<p>Instructors will use syllabus that will satisfy CurricuUNET requirements and improve on-going assessment of student-centered learning and teaching.</p>
<p><b>Academic Discipline/CTE Program Learning Outcomes</b></p>	<ol style="list-style-type: none"> <li>1. Identify the fundamental principles of programming, including those of algorithm analysis, software design, operating systems, and database</li> <li>2. Design and write computer programs that are correct, simple, clear, efficient, well organized, and well documented</li> <li>3. Know and be able to apply important data structures and algorithms</li> <li>4. Understand the hardware and software aspects of computer systems that support application software development</li> <li>5. Develop software engineering proficiency</li> </ol>
<p><b>SCANS and/or Core Curriculum</b></p>	<p>SCANS</p> <ol style="list-style-type: none"> <li>1. C1: Allocates Time Students will learn to allocate time to perform each task (online course will emphasize this task more).</li> <li>2. C5: Acquires and Evaluates Information Student will be able to identify need for data, obtain it from existing sources or create them, and evaluate information.</li> <li>3. C6: Organizes and Maintains Information Students will learn to organize their assignments and manage to complete them with specific deadline.</li> <li>4. C18: Selects Technology Students will use flowcharts to understand the subject. Students will select appropriate compiler to run program.</li> <li>5. C20: Maintains and Troubleshoots Technology Student will be able to prevent, identify or solve problems in machines, computers, and other technologies.</li> <li>6. F9: Problem Solving Students will learn problem-solving methodology (pseudo code).</li> <li>7. F10: Seeing Things in the Mind’s Eye Student will be able to organize and process symbols, pictures, graphs, objects or other</li> </ol>

	<p>information.</p> <p>Every semester, calendar based weekly learning material (reading, hands exercises for in-class, web enhanced, or online assignments, and scheduled quiz/test/exam) will be posted as part of the syllabus.</p>
<b>HCC Policy Statement</b>	
<b>Access Student Services Policies on their Web site:</b>	<a href="http://hccs.edu/student-rights">http://hccs.edu/student-rights</a>
<b>Distance Education and/or Continuing Education Policies</b>	
<b>Access DE Policies on their Web site:</b>	<a href="http://de.hccs.edu/de/de-student-handbook">http://de.hccs.edu/de/de-student-handbook</a>
<b>Access CE Policies on their Web site for non-credit classes:</b>	<a href="http://hccs.edu/CE-student-guidelines">http://hccs.edu/CE-student-guidelines</a>