The University of Texas at Dallas
Erik Jonsson School of Engineering and Computer Science
Course Syllabus
Programming Fundamentals
CS 1336

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Special Message for all Students: **Scores for test 3 and grades for the course are now posted on eLearning.**

Course Number: CS 1336.501 and CS 1336.503

Course Title: Programming Fundamentals

Credit Hours: 3

eLearning: *click here to go to eLearning (this will have your scores)*

Instructor: **Name:** Tim Farage

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Office hours: Click here to go to my home page which has my office hours.

TA: ***Name:***

Office Hours:

E-Mail:

Course catalog description: *CS 1336 (COSC 1336) Programming Fundamentals (3 semester hours) Introduction to computers. Primitive data types, variable declarations, variable scope, and primitive operations. Control statements. Methods/functions. Arrays, and strings using primitive data arrays. Output formatting. Debugging techniques. Designed for students with no prior computer programming experience. This class cannot be used to fulfill degree requirements for majors in the School of Engineering and Computer Science. Note that a grade of C or better is required in order to register for CS 1335 or CS 1337.*

Course designation*: Not Required.*

Prerequisite courses*: None.*

Co-requisite courses*: CS 1136.*

Required course materials*:*

Starting out with C++ by Gaddis, 7th edition.

Course owner*: Timothy P. Farage*

Overall educational objective*: To enable students to understand and apply introductory computer programming knowledge.*

Course learning outcomes*:*

1. *Ability to develop algorithmic solutions for use on computers*
2. *Ability to perform console input and output, utilize basic operators, and perform sequential processing*
3. *Ability to utilize the basic control structures for selection*
4. *Ability to utilize the basic control structures for repetition logic*
5. *Ability to perform sequential file input and output*
6. *Ability to develop programs in a functional form*
7. *Ability to process data in arrays*

Laboratory experiences*: CS 1136 (co-requisite)*

Tutoring Lab*: ECSS 2.104a*

Test Dates: (subject to change)

Note: Tests are open book and open notes, but no electronics are allowed.

Test 1 - Thursday, Oct 3

Test 2 - Thursday, Oct 31
Test 3 - Thursday, Dec 5 - This is also the last day of class

Material Covered (Subject to change)

The course will cover selected topics in chapters 1 through 5 and 8. The approximate dates of the material covered are:

Class	Date	Class Activity	Assignment
0	August 29	Review of Syllabus	Read Chapter 1
1	September 03	C++ Fundamentals	Read Chapter 2
2	September 05	C++ Fundamentals	Read Chapter 3
3	September 10	C++ Fundamentals	
4	September 12	C++ Fundamentals	
5	September 17	Decision Structures	Read Chapter 4
6	September 19	Decision Structures	
7	September 24	Decision Structures	Program 1 Due
8	September 26	Decision Structures	
9	October 01	Exam 1 - Chapters 1, 2, 3, 4	
10	October 03	Go over Exam 1	Read Chapter 5
11	October 08	Loops	
12	October 10	Loops	Program 2 Due
13	October 15	Loops	
14	October 17	Loops	
15	October 22	Loops	
16	October 24	Loops	
17	October 29	Loops and Files	Program 3 Due
18	October 31	Loops and Files	
19	November 05	Exam 2 - Chapter 5	
20	November 07	Go over Exam 2	
21	November 12	Functions	Read Chapter 6
22	November 14	Functions	
23	November 19	Arrays	Read Chapter 7, Program 4 Due
24	November 21	Arrays	Read Chapter 8
25	December 03	Sorting Arrays	
26	December 05	Classes cancelled due to inclement weather	
27	December 10	Exam 3 - Chapters 6, 7, and 8	Program 5 Due

Programming IDE: *If you don't already have an IDE (a programming environment) for C++, go to http://www.microsoft.com/visualstudio/en-us/products/ and download Microsoft Visual C++ 2012 Express. Install it and then go through a tutorial that teaches how to use it.*

Programming Assignments: *(Subject to change)*

Name your program based on which program number you are doing. For example, your first program should be named, Program1. Also, near the top of your program in the comment section, put your name, the course name, section, and date. You should also describe what your program does in the comment section.

All programming assignments are to be turned in using eLearning. Login to your eLearning account, and click on the link for this course. On the left side, click on the link for 'Assignments', and then click on the desired Program link. Then click on 'Add Attachments', and then 'My Computer', and then browse until you locate your program, which should be a single .cpp file. Click on it and it should upload to eLearning. Then click 'Submit' and that should do it. If this does not work for you, you may send me an email with your program attached, but this must be done before the program due date and time.

Programming assignments will be graded on a 100 point basis. Correct execution, program design, coding style, documentation, and comments all contribute toward your grade. Keep in mind that you always want to write code that is easy to understand and is also easy to maintain. Fewer lines does not necessarily mean a better program. Please use comments liberally.

Late assignments will not be accepted.

Programs (subject to change)

Program # 1

Purpose: Demonstrate the ability to create and execute a C++ program utilizing basic, elementary statements.

Assignment: Write a program that calculates a car's gas mileage. Accept from the user the number of gallons consumed on the trip, the starting mileage for the trip and the ending mileage for the trip. Calculate the miles per gallon and print this in a clear format on the screen.

Program # 2

Purpose: Demonstrate the ability to create and execute a C++ program utilizing the if/else control statement.

Assignment: Write a program that comments upon a person's age. It should ask how old the user is. If the age entered is less than 1 or greater than 120 it should display an error message and terminate. Otherwise, if the person is 5 or under, your program should display the message, "It's past your bedtime. Go to sleep". If the person is over 5 but no more than 17, your program should display the message, "Stop playing with the computer, and go do your homework." If the person is over 17 but no more than 30, your program should display the message, "Stop doing homework. You are an adult now". And finally, if the person is over 30, your program should

display the message, "You are very old".

Program # 3

Purpose: Demonstrate the ability to use loops.

Assignment: page 296 #13 (The Greatest and Least of These)

Program # 4

Purpose: Demonstrate the ability to use functions.

Assignment: page 370 #5 ***(Falling Distance)***

Program # 5

Purpose: Demonstrate the ability to create and use C++ arrays.

Assignment: First, you should use Notepad (or any other text editor) to create a file ahead of time. The file should have 6 double values on separate lines. These values represent the earnings of a person for each of the first 6 months in a year; thus each double value will have exactly two places to the right of the decimal. Name this file, "earnings.txt", and save it to your desktop.

Your program should open and then read the 6 double values from this file into an array named 'earnings'. Use a 'for' loop to do this. Then use another 'for' loop to display the earnings as they were in the file.

After this, sort the array , and then display the earnings in sorted order. Finally, compute and display the average of the earnings.

For example, suppose that you created the file, "earnings.txt" and that the contents of the file are:

1	*0*	*1*	*2*	*.*	*3*	*0*
1	*4*	*0*	*0*	*.*	*7*	*1*
1	*2*	*5*	*0*	*.*	*7*	*8*
5	*0*	*0*	*0*	*.*	*4*	*0*
3	*0*	*5*	*0*	*.*	*7*	*0*
2	*1*	*3*	*4*	*.*	*8*	*8*

After your program executes its output would be:

The earnings from the file are:

1	***0***	***1***	***2***	***.***	***3***	***0***
1	***4***	***0***	***0***	***.***	***7***	***1***
1	***2***	***5***	***0***	***.***	***7***	***8***
5	***0***	***0***	***0***	***.***	***4***	***0***
3	***0***	***5***	***0***	***.***	***7***	***0***
2	***1***	***3***	***4***	***.***	***8***	***8***

After sorting the earnings are:

1	***0***	***1***	***2***	***.***	***3***	***0***
1	***2***	***5***	***0***	***.***	***7***	***8***
1	***4***	***0***	***0***	***.***	***7***	***1***
2	***1***	***3***	***4***	***.***	***8***	***8***
3	***0***	***5***	***0***	***.***	***7***	***0***
5	***0***	***0***	***0***	***.***	***4***	***0***

The average earnings for the half year is $2308.29

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Grading Policies:

The 5 programming projects and the three exams will determine grades.

The final grade will be composed as follows:

Test	*1:*	*25%*
Test	*2:*	*25%*
Test	*3:*	*25%*
Programs:		*25%*

Letter grades will be assigned as given below. I reserve the right to make the grading scale easier than given here.

98-100	*A+*
92-97	*A*
90-91	*A-*
88-89	*B+*
82-87	*B*
80-81	*B-*
78-79	*C+*
72-77	*C*
70-71	*C-*
68-69	*D+*
62-67	*D*

60-61		*D-*
Below	*60*	*F*

Your grade will be based only on your test and programming scores. PLEASE do not ask me to change your grade or give you a grade for any other reason. I know that some of you will lose scholarships, be deported, etc. if you do not make a certain grade; there is nothing I can do about this. Of course, if a mistake was made in scoring, I will correct it. Any requests for changes to scores must be made within 30 days after the day the graded material was returned to the class. Any request for a grade change must be made within 60 days after the day that grades were posted.

Course & Instructor Policies:

All make-up exams are scheduled and given at the discretion of the instructor. Make-up exams are only given to those students who coordinate the missing of an exam prior to the originally scheduled exam date and time, or for an emergency.

Course credit is only given for work assigned and scheduled in the course schedule. No extra work will be assigned nor will extra credit be given.

There is a strong, direct correlation between class attendance and class performance. Those students who regularly attend class tend to make significantly higher final grades than those who don't.

Students are expected to be respectful to each other and to the course instructor. Disruptive behavior in the class room is not tolerated.

Each student in the class is encouraged to join/form a study group. Members of each study group are strongly encouraged to assist one another in learning and understanding the course material.

Field Trip Policies, Off-campus Instruction and Course Activities

Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at the website address http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean. Below is a description of any travel and/or risk-related activity associated with this course.

No off-campus activities are scheduled.

Student Conduct & Discipline

The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations which govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, A to Z Guide, which is provided to all registered students each academic year.

The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the university's Handbook of Operating Procedures. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).

A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.

Academic Integrity

The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrate a high standard of individual honor in his or her scholastic work.

Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.

Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The

university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.

Withdrawal from Class

The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called 'the respondent'). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the deal will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.

Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.

Incomplete Grade Policy

As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An

incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.

Disability Services

The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.

The contact information for the Office of Disability Services is:
The University of Texas at Dallas, SU 22
PO Box 830688
Richardson, Texas 75083-0688
(972) 883-2098 (voice or TTY)

Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired).

Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.

It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.

Holy Days

The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.

The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.

If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.

These descriptions and timelines are subject to change at the discretion of the Professor.