Last Updated: August 20th, 2019

Course Syllabus

Course Information

Course Number/Section	**CS/CE/TE 1337 Sections 502 and 504 F19**
Course Title	**Computer Science I**
Term	Fall 2019
Days & Times	

Section 502: Tuesday & Thursday: 7:00pm - 8:15pm FO 2.208
Section 504: Tuesday & Thursday: 5:30pm - 6:45pm FO 2.208

Contact Information

Instructor	Dr. Stephen Perkins
Office Location	ECSS 4.702
Office Phone	(972) 883-3891
Email Address	stephen.perkins@utdallas.edu

Office Hours	Tuesday and Thursday 3:00pm – 5:00pm and by appointment

Course Pre-requisites, Co-requisites, and/or Other Restrictions

CS 1336 with a grade of C or better or equivalent. (Same as CE 1337 and TE 1337)

Course Description

CS/CE/TE 1337 - Computer Science I (3 semester credit hours) Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering. Programming language of choice is C/C++. Students will also be registered for an exam section.

Student Learning Objectives/Outcomes

After successful completion of this course, the student should have an:

- Ability to use single and multi-dimension arrays
- Ability to implement simple searching and sorting algorithms
- Ability to implement pointers and perform simple memory management
- Ability to implement structured data types
- Ability to define and implement a class
- Ability to use fundamentals of object-oriented design

Textbooks and Materials

Required Texts

Starting Out With C++, From Control Structures through Objects, 9th Edition, by Tony Gaddis, Addison Wesley, 2015.

Course Tools

Students will be required to write programs in C++. There are a number of development environments that students may use (CodeLite, Dev C++, Eclipse, Microsoft Visual Studio Express, NetBeans, etc). For instructional purposes, this section of the class will use the free C++ Environment for Eclipse. This is available for download here: http://www.eclipse.org/cdt/

Students may use any environment that will allow them to meet the submissions requirements of the course. However, if students use an environment other than Eclipse, it is up to the student to make sure that their code can be compiled and run by the TA in an Eclipse environment.

Assignments & Academic Calendar

Class	Date	Class Activity	Assignment
1	Tuesday, Aug 20	Review of Syllabus	Confirm access to eLearning Install Eclipse
2	Thursday, Aug 22	Introduction to Computers C++ Fundamentals	Read Chapters 1 & 2
3	Tuesday, Aug 27	Program 1 Intro C++ Fundamentals: Decision Structures	**Program 1 start** Read Chapter 3 & 4
4	Thursday, Aug 29	C++ Fundamentals: Loops, File I/O, Functions	Read Chapter 5 & 6
5	Tuesday, Sep 3	Arrays Census Day / Last day to drop without a "W" is Wednesday Sep 5th.	Read Chapter 7
6	Thursday, Sep 5	Arrays continued	**Program 1 Due**
7	Tuesday, Sep 10	Review Program 1 Program 2 Intro Sorting and Searching Arrays	Read Chapter 8 **Program 2 start**
8	Thursday, Sep 12	Sorting and Searching Arrays	
9	Tuesday, Sep 17	Exam Review	

10	Thursday, Sep 19	**Exam 1 – Chapters 1-8**	
11	Tuesday, Sep 24	C Vs. C++ C Style I/O Dynamic Memory	Read Chapter 9 **Program 2 due**
12	Thursday, Sep 26	Memory Management	Read Chapter 10 **Program 3 start**
13	Tuesday, Oct 1	Structures	Read Chapter 11
14	Thursday, Oct 3	Chapter 13: Intro to Objects	Read Chapter 13
15	Tuesday, Oct 8	Chapter 13 Cont: Classes and Objects	**Program 3 Due**
16	Thursday, Oct 10	Program 4 Intro Chapter 13 Cont: , Constructors, Destructors, Intro to STL - Vector Midterm Grades Viewable by Oct 13th	**Program 4 Start**
17	Tuesday, Oct 15	Chapter 13 Cont: Classes and Objects continued, UML. Program 4 helper code	Read Chapter 14 and 15
18	Thursday, Oct 17	Chapter 14 (Brief): Static Members/Friends/Copy Constructors/Overloading/this Chapter 15: Inheritance/Derived Classes/Polymorphism	
19	Tuesday, Oct 22	Chapter 15 cont: Inheritance/Derived Classes/Polymorphism	
20	Thursday, Oct 24	Inheritance/Derived Classes/Polymorphism cont'd Exam Review	
21	Tuesday, Oct 29	**Exam 2 – Cumulative + Chapters 9-11, 13-15**	
22	Thursday, Oct 31	Program 5 Intro Intro to Design Patterns Singletons	**Program 4 Due** **Program 5 Start**
23	Tuesday, Nov 5	Factory Design Pattern Exceptions Function/Class Templates Review Vectors in this context	Read Chapter 16
24	Thursday, Nov 7	Standard Template Library Linked Lists	Read Chapter 17

25	Tuesday, Nov 12	Linked Lists Cont. Program 6 Intro Observer Design Pattern Event Driven Programming	
26	Thursday, Nov 14	Iterators Storing and passing functions	**Program 5 Due** **Program 6 start**
	Tuesday, Nov 19	Iterators Storing and passing functions	
27	Thursday, Nov 21	Exam Review HW6 Workshop	
28	Nov 25 – Nov 29	Thanksgiving fall break – no classes	
29	Tuesday, Dec 3	**Exam 3 – Cumulative + Chapters 16, 17**	
30	Thursday, Dec 5	HW6 Workshop Last day of the class Final Grades viewable by Dec 16th	**Program 6 Due**

Grading Policy

Projects and exams determine grades. The final grade will be composed as follows:

Programs	45%
Exams	45%
Attendance	10%

Letter grades will be assigned as follows:

97 - 100	A+
94 and < 97	A
90 and < 94	A-
87 and < 90	B+
84 and < 87	B
80 and < 84	B-
77 and < 80	C+
74 and < 77	C
70 and < 74	C-
67 and < 70	D+
64 and < 67	D
60 and < 64	D-
Below 60	F

All tests are closed book and closed notes. Laptop and electronic devices are NOT allowed.

There will be regularly assigned reading and homework problems. The homework problems will require the student to spend time programming a computer. Programming assignments should be turned in by means of eLearning. Assignment files contain:

A text copy of all source code
A text copy of any required supporting documentation or files
Specific details of deliverables are provided in each assignment write-up

All homework assignments will be graded by the TA. The instructor is responsible for grading the exams. **Therefore, if you have any question at all concerning the homework assignments, please speak with the TA about it first.** Even if you were to approach the instructor first, you would both still have to go back to the TA. It will save time to start with the TA first.

If you are dissatisfied with the result of your meetings with a TA, then please see the instructor about that issue. Together, you all can work to get it straightened out. You have every right to pursue any issue that concerns your grade in the course.

Course & Instructor Policies

Class Attendance

There is a strong and direct correlation between class attendance and class performance. Students who regularly attend class tend to make significantly higher final grades than those who do not. The department attendance policy states:

- ***Three consecutive absences lead to a one letter grade drop***
- ***Four consecutive absences lead to an F***

An attendance sheet will be sent around the room each class. You will be considered absent if you have not signed the attendance sheet by ten minutes after the scheduled start time of the class. Instructors are required to report those students who miss too many classes.

Extra Credit

Course credit is only given for work assigned and scheduled in the course syllabus. No extra work will be assigned nor will extra credit be given for any extra work performed by a student.

Late Work

Late assignments are not accepted. Assignments are due at the time listed at the top of the assignment write-up.

Make-up exams

Make-up examinations will be administered **only for well-documented emergencies**. A student must make every attempt possible, via telephone and email, to notify the instructor that he/she will miss a scheduled quiz or exam. This must be done prior to the scheduled date and time if possible. See the **UT Dallas Syllabus Policies and Procedures section** below for the policy regarding religious holy days.

Grade Disputes

All grade disputes must be discussed & resolved by the student with the instructor within one week of posting.

Classroom Citizenship

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 should support one another in learning and understanding the course material.

Comet Creed

This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:

"As a Comet, I pledge honesty, integrity, and service in all that I do."

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. It is included here by reference.

Please go to http://go.utdallas.edu/syllabus-policies for these policies.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Instructor.