

### *Course Information*

<i>Course Number/Sections</i>	<b>CS/SE 1337 Sections 003 and 010, S20</b>
<i>Course Title</i>	<b>Computer Science I</b>
<i>Term</i>	Spring 2020
<i>Days &amp; Times</i>	
Section 010:	Monday & Wednesday: 11:30am - 12:45pm ECSS 2.312
Section 003:	Monday & Wednesday: 1:00pm - 2:15pm ECSS 2.312

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### *Contact Information*

<i>Instructor</i>	Dr. Doug DeGroot
<i>Office Location</i>	ECSS 4.409 (down the hall from the Mentoring Center)
<i>Office Phone</i>	(972) 883-4200
<i>Email Address</i>	doug.degroot@utdallas.edu
<i>Office Hours</i>	Mondays and Wednesdays 2:30pm – 3:30pm and by appointment

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

CS 1336 (with a grade of C or better) or equivalent.

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### *Course Description*

**CS/TE 1337 - Computer Science I** (3 semester credit hours) Review of control structures and data types with emphasis on structured data types. Applying the object-oriented programming paradigm and 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. The programming language of choice is C/C++. Students will also be registered for an exam section.

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### *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 Text

*Starting Out With C++, From Control Structures through Objects*, 9<sup>th</sup> Edition,  
by Tony Gaddis, Pearson Education, 2018.

ISBN-13: 978-0-13-449837-9

ISBN-10: 0-13-449837-2

#### **Option 1: Revel System**

Revel for Gaddis C++ - Access Code (Digital Book)

Gaddis, Tony; Pearson Publishing

ISBN 0-13-449837-9

The access code is for a digital version of the book using the REVEL platform. The REVEL platform provides interactive elements to the digital textbook such as animations, videos and coding samples that readers can modify and execute.

- In past semesters, students have stated that the interactive textbook helped them learn the material better.

Students using this option do not need to buy the physical version of the book

#### **Option 2: The Physical book**

*Starting Out with C++, From Control Structures through Objects*

(9th edition – grapefruit slice on the front cover); Tony Gaddis, Pearson Publishing

ISBN 0-13-449837-2

- As you read the text, watch the corresponding VideoNotes. The VideoNotes are available at <http://www.pearsonhighered.com/gaddis/>.  
NOTE: VideoNotes are only available with an access code. If your book does not have an access code, you can buy one online at the above address. The access code is not required for class, but some of you may find the material accessible with this code to be a good resource.

### C++ Compiler

Students will be required to write programs in C++. There are a number of development environments that students may use (Code::Blocks, CodeLite, Dev C++, Eclipse, Microsoft Visual Studio Express, NetBeans, etc.).

For instructional purposes, this section of the class will most likely use only Code::Blocks and/or Microsoft Visual Studio 2015.

**Code::Blocks** can be downloaded here:

<http://www.codeblocks.org/>

**MS Visual Studio 2015** can be downloaded here:

<https://www.microsoft.com/en-us/download/details.aspx?id=53587>

Students may use any environment that will allow them to meet the submissions requirements of the course. However, if a student uses an environment other than Code::Blocks or MS Visual Studio 2015, it is up to the student to make sure that their code can be compiled and run by the TA in one of those two environments.

If you intend to use your own computers to write the class assignments, it is important that you get a compiler downloaded, installed, and running on your computer as soon as possible. If you don't have a computer, or if you're having problems getting a compiler installed, you should write your

programs in the labs until the problems are resolved. Since there are many computers available on campus, problems with your local machines will not be accepted as an excuse for not doing the assignments or late submissions.

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### ***IF YOU NEED ASSISTANCE***

**Help Desk:** For help with issues regarding your computer, UTD maintains a walk-in help desk. Visit their Web site for details: <http://www.utdallas.edu/ir/helpdesk/>

**Tutoring:** For programming assistance in CS1337, please visit the TA or the Mentoring Center. The schedule for the Mentoring Center will be released within the first week of classes. You can find the Mentoring Center in Room 4.415.

**Resources:** C++ language tutorial <http://www.cplusplus.com/files/tutorial.pdf>  
C++ reference: <http://www.cppreference.com>  
C++ tutorial <http://www.learncpp.com/>

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### ***Assignments & Academic Calendar***

As Instructor for this course, Dr. DeGroot reserves the right to change this calendar as he sees fit.

01/13/20	Introduction to CS 1337 Review of CS1336 Topics	
01/15/20	Review of CS1336 Topics, continued	Diagnostic Test 1/16 thru 1/24
01/20/20	NO CLASS (MLK Day)	Read Ch.s 7 & 8
01/22/20	Intro to Multidimensional Arrays, Vectors, Searching, and Sorting	
01/27/20	More on Multidimensional Arrays, Vectors, Searching, and Sorting	Read Chapter 10
01/29/20	Characters, Strings & the String Class	
02/03/20	More on Characters, Strings & String Class	Read Ch. 9
02/05/20	Pointers	
02/10/20	Pointers	Read Ch. 12 (omit 12.7, 12.8)
02/12/20	Advanced File I/O	Read Ch. 11
02/17/20	Advanced File I/O	
02/19/20	Structured Data	
02/24/20	Structured Data with Pointers	
02/26/20	Multidimensional Arrays	Read Ch. 8
03/02/20	Searching and Sorting	

03/04/20	Searching and Sorting	
03/09/20	Review	
03/11/20	Test #1	Read Ch 13
03/16/20	SPRING BREAK – NO CLASSES	Read Chs. 13 & 14
03/18/20	Introduction to Classes & Objects	
03/23/20	More about Classes Objects	
03/25/20	More about Classes & Objects	Read Ch 15
03/30/20	Inheritance, polymorphism, virtual functions	
04/01/20	Inheritance, polymorphism, virtual functions	
04/06/20	Inheritance, polymorphism, virtual functions	Read Ch. 20
04/08/20	Recursion	
04/13/20	Recursion	
04/15/20	Quicksort	
04/20/20	Quicksort	
04/22/20	Misc Topics	
04/27/20	Review	
04/29/20	Test #2	

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### *Grading Policy*

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

Programs	75% (5-6 programming projects)
Exams	25% (2, probably in class but perhaps at the testing center)

### *Grading Scale:*

98-100 A+	88-89 B+	78-79 C+	68-69 D+	Below 60 F
92-97 A	82-87 B	72-77 C	62-67 D	
90-91 A-	80-81 B-	70-71 C-	60-61 D	

The instructor reserves the right to adjust the average required to receive a particular letter grade.

All tests are closed book and closed notes. Laptops and other 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. All

programming assignments must be turned in by means of eLearning. Assignment files must contain:

1. a text copy of all source code
2. a text copy of any required supporting documentation or files
3. an executable version of the homework that executes under Windows

Specific details of deliverables will be provided in each assignment write-up.

All homework assignments will be graded by the TA/Graders. **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 will 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 can work to get it straightened out. You have every right to pursue any issue that concerns your grade in the course.

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## 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 Computer Science Department has implemented the following attendance policy beginning Fall 2016: If a student misses three consecutive classes, the student will receive a letter grade reduction to his or her final grade. **This deduction is cumulative**, so if a student misses three consecutive classes twice, the final grade will be reduced by two letter grades. If a student misses four consecutive classes, the student will automatically receive an F for his or her final grade. This policy can only be waived only when there is a legitimate reason for absence (e.g. sickness, university games, etc.), with convincing proof. For further information, please visit

<http://cs.utdallas.edu/education/undergraduate/attendance-policy/>

Remember:

- ***Three consecutive absences lead to a one letter grade drop.***
- ***Six or more unexcused 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 the end of a class. Instructors are required to report those students who miss too many classes.

### Late Work

**Late assignments are not accepted - period.** 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.
- If a student sits any exam, this means the student accepts the responsibility for that exam. Once taken, the exam will not be given again, and no make-up will be scheduled.
- If a student cannot make the midterm exam, and the student brings adequate documentation of why they did not attend, (such as a doctor's note), then the Final Exam score will be substituted for the midterm.
- If a student informs the instructor they cannot make the Final Exam before it is given, then a make-up exam will be scheduled. This includes the University's 3 Final Exam in a Day policy. End of semester travel arrangements are not an acceptable reason for missing the Final Exam.
- If a student does miss the Final Exam, and the student brings adequate documentation of why they did not attend, (such as a doctor's note), a grade of Incomplete will be given and a makeup exam will be scheduled. If neither action is taken, the Final Exam will be a zero.

*A dental appointment or other non-emergency health situation is not an acceptable excuse for missing an examination you know about months in advance.*

## Grade Disputes

All grade disputes must be discussed & resolved by the student with the Instructor within two week of posting the grades.

## 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.

## Study Groups

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.

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## *Ethical Behavior*

Plagiarism is the unacknowledged incorporation of another's work into work which a student offers for credit. Using source code of another person's program, even temporarily or from the web, is considered plagiarism. Example: Someone putting their name on someone else's homework assignment and turning it in is cheating.

Collusion is the unauthorized collaboration of another person in preparing work that a student offers for credit. Allowing another person to use your source code, even temporarily, is considered collusion.

Example: Giving someone your homework, and then that person turns it in as their own work, then the giver is also guilty of cheating.

Dr. DeGroot's penalty for any form of dishonesty is a score of 0 on the entire assignment.

### **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."*

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### ***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.

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

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**Course Location:** ECSS 2.312

