

	<b>Course</b>	CS/CE/TE 2336 Computer Science II
	<b>Professor</b>	Don Vogel
	<b>Term</b>	Fall 2016
		Section .002 Monday and Wednesday : 2:30 pm – 3:45pm Class Room Location: CB2 1.204

### Professor's Contact Information

<b>Office Phone</b>	972-883-3551
<b>Office Location</b>	ECSS 2.103A
<b>Email Address</b>	don.vogel@utdallas.edu
<b>Office Hours</b>	Monday and Wednesday: 11:00 am – noon 1:00 pm – 2:00 pm Available by appointment for other times

### General Course Information

<b>Prerequisites</b>	CS 2337 is usually the prerequisite for this course. This section requires that you have satisfied the prerequisite with the appropriate AP credits. This course will cover C++ and not Java.
<b>Course Prerequisite / Co-requisite</b>	CE/CS/TE 2305 with a grade of C or better or equivalent.
<b>Course Description</b>	Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis. Includes comprehensive programming projects. Programming language of choice is C++.
<b>Learning Outcomes</b>	Students will be able to implement different data structures using the C++ programming language. They will be able use different data structures to program solutions to solve real problems. It will also help them understand algorithmic analysis and complexities. After successful completion of this course, you should be able to: <ul style="list-style-type: none"> <li>• Ability to implement recursive algorithms</li> <li>• Ability to implement linked lists, stacks, and queues</li> <li>• Ability to implement a binary tree</li> <li>• Ability to use hash tables and graphs</li> <li>• Ability to understand algorithmic analysis</li> <li>• Ability to create a comprehensive programming project</li> </ul>
<b>Text</b>	C++ Programming, Program Design Including Data Structures (7th edition – green cover); Malik, D.S.; Cengage Learning ISBN 1-285-85275-3  Feel free to rent or buy the book in either physical or digital form. We will use the book heavily in the course, so please obtain a copy of the book as soon as possible.
<b>C++ Compiler (Required)</b>	All projects you submit will be compiled with MinGW 4.9.2. You may use any IDE that can utilize MinGW 4.9.2.  In class, the Integrated Development Environment (IDE) that I will be using is Eclipse (Mars.2). This is a free download for Windows. I will post a document to eLearning stating how you can install the compiler and Eclipse. You can also find a copy at URL:  <a href="http://utdallas.edu/~dgv130030/pdfs/EclipseForWindowsMinGW_w64_4_9_2.pdf">http://utdallas.edu/~dgv130030/pdfs/EclipseForWindowsMinGW_w64_4_9_2.pdf</a>

	<p>For Mac users, I recommend using XCode or creating a Windows partition to install MinGW and an IDE. Be advised that there is a Mac version of Eclipse, but I have not used it.</p> <p>If a student uses a compiler other than MinGW 4.9.2 for development, he/she is responsible for verifying prior to submission that the code compiles properly with the stated compiler. No compiler is perfect and each one has its own quirks. It is the student's responsibility to make sure that the program functions as expected with the compiler that will be used for grading (MinGW 4.9.2). This would include Microsoft VisualStudio which is NOT based on MinGW.</p> <p>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. In any case, please note that you are responsible for getting the programming assignments written and turned in on time. 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.</p>
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**Tentative Class Schedule** (all dates are subject to change at the discretion of the instructor)

<b>Date</b>	<b>Topic</b>	<b>Reading / Project Assignments</b>
8/22	Introduction to CS 2336	Chapters 2 & 3
8/24	Basic Elements of C++ (Ch. 2), and Basic I/O (Ch. 3)	Chapters 4 & 5
8/29	Control Structures (Selection - Ch. 4), and Control Structures (Repetition - Ch. 5)	Chapter 6
8/31	User-Defined Functions (Ch. 6)	Chapters 7 & 8
9/5	<b>LABOR DAY (NO CLASS)</b>	
9/7	User-Defined Simple Data Types, Arrays and Strings (Ch. 7 & 8)	Chapter 9
9/12	Arrays and Strings, and Records (Chs. 8 & 9)	Chapters 10 & 11
9/14	Classes and Data Abstraction, and Inheritance and Composition (Chapters 10 & 11)	<b>Project 1 Due</b>
9/19	Inheritance and Composition (Chapters 10 & 11)	Chapter 12
9/21	Pointers, Classes, Virtual Functions, Abstract Classes, and lists (Ch. 12)	
9/26	Pointers, Classes, Virtual Functions, Abstract Classes, and lists (Ch. 12)	Chapter 13
9/28	Operator Overloading (Ch. 13)	Chapter 14
10/3	Exception Handling (Ch. 14)	Appendix E (pgs. 1582 – 1589)
10/5	Random File Access (Ap. E)	<b>Project 2 Due</b>
10/10	<b>Mid-Term Exam – Testing Center During Class Hours</b>	Chapter 16
10/12	Lists (Ch. 16)	
10/17	Lists (Ch. 16)	
10/19	Stacks (Ch. 17)	Chapter 17

10/24	Queues (Ch. 17)	Chapter 19
10/26	Binary Search Trees (Ch. 19)	<b>Project 3 Due</b>
10/31	Binary Search Trees (Ch. 19)	
11/2	Binary Search Trees (Ch. 19)	eLearning Hash Resources
11/7	Hashing (eLearning)	
11/9	Hashing (eLearning)	
11/14	Hashing (eLearning) Graphs (Ch. 20)	Chapter 20
11/16	Graphs (Ch. 20)	<b>Project 4 Due</b>
11/21 – 11/25	<b>FALL BREAK</b>	
11/28	Graphs (Ch. 20)	Chapter 18
11/30	Sorting (Ch. 18)	
12/5	Developing Efficient Algorithms	
12/7	Developing Efficient Algorithms	
12/10		<b>Project 5 Due</b>
Finals Week	<b>Final Exam - TBD</b>	

### Important Dates (Subject to change):

August 22	Classes start
September 5	Labor Day (School Closed)
September 7	Census Day, Last day to drop a class without a “W”
September 14	Project 1 due
October 5	Project 2 due
October 10	Mid-Term Exam
October 26	Project 3 due
October 27	Last Day to Withdraw
November 16	Project 4 due
December 10	Project 5 due
TBD (Finals Week)	Final Exam

All project and homework due dates will be posted to eLearning. Any changes to test dates and times will be posted.

### Course Policies

<b>Make-up Work</b>	Currently none is planned
<b>Extra Credit</b>	Currently none is planned
<b>Homework</b>	Homework assignments are generally short coding assignments that can be done in 1-2 hours. These assignments will typically be due 1 week from the date given.  See “Your Work” below for additional information.
<b>Late Homework</b>	Homework will not be accepted late. If your assignment is not submitted at the time posted on eLearning, it is late and will receive a grade of 0. If it is not submitted it will get a grade of 0.  Homework is only accepted via eLearning unless I have approved the submission prior to the due date.
<b>Projects</b>	Projects will be major programming assignments that reinforce recently discussed topics and should be completed in two to three weeks. Projects are intended to take approximately 15-20 hours to complete; this includes the design, coding and testing process. Do not wait until a couple of days

	<p>before the due date to start the project. This is a very bad idea and almost never ends well for the student.</p> <p>Programming assignments will be graded on a 100-point basis. Not only will your project be graded on proper execution, but also things like efficiency, implementation and documentation. Keep in mind that you always want to write code that is easy to understand and is also easy to maintain. Fewer lines do not necessarily mean a better program. Please use comments liberally.</p> <p>You are responsible for testing your project thoroughly before submission. I will not give you the test cases that will be used for grading before the project is due.</p> <p>See “Your Work” below for additional information.</p>
<b>Late projects</b>	<p>Projects will be accepted late at the penalty of 5% per hour late (rounded up, so one second late will be counted as one hour) for up to 6 hours past the due date/time. If the project is submitted more than 6 hours late the grade will be 0. Missing projects will be given a grade of 0.</p> <p>If you believe that you have a valid excuse for your work being late then you must make arrangements with the instructor BEFORE the due date.</p> <p>In no cases will lab submissions be accepted more than two weeks after the original due date. Medical excuses will require a note from your Doctor.</p>
<b>Missed Exams</b>	<p>You are responsible for being available during the exam times. The midterm exam is during class time. The final exam 3 will be during the exam time assigned on Galaxy.</p> <p>If you cannot make an exam time you must let me know BEFORE the exam date and time. Medical emergencies will require a note from your Doctor.</p> <p><b>Missed exams will result in a grade of 0 for that exam.</b></p>
<b>Your work</b>	<p>All work you submit must be your work. If you ask others for help (other students, the mentor center, etc.) you must ensure that you submit only work that you have, personally, performed. Group submissions are not allowed unless explicitly allowed by the instructor (Don Vogel). There are no plans for any group assignments in this class.</p> <p>All homework and project assignments will be checked for plagiarism. Any homework or project assignments found to be very similar to each other will be reported to the Judicial Affairs Committee and I will accept their decision in regards to the grade.</p>
<b>Grading Disputes</b>	<p>All grade disputes must be reported within 1 week of the grade in question being posted in eLearning.</p> <p>I am responsible for grading your exams. If you have questions regarding your exam, please contact me. Please note that due to FERPA, I cannot discuss grades via e-mail.</p> <p>Everything else will be graded by a TA. Please address any grading concerns you have regarding these grades with the TA. When you email the TA with questions about your grade, please copy me on the email so that I am aware of the situation and can make sure it is resolved.</p>

<b>Class Attendance</b>	Three consecutive absences leads to one letter grade drop (as an example, your grade could drop from an A- to a B-). Four consecutive absences leads to an F.																						
<b>Tutoring</b>	For programming assistance in CE/CS/TE 2336, a tutoring lab will be maintained. The schedule usually comes out a couple of weeks after the semester begins. Once the tutoring schedule for this semester has been released, an announcement will be posted on eLearning. In addition, it is part of the TA's job to help you, so please of course, I'll be happy to help as well.																						
<b>Classroom Citizenship</b>	Professional at all times																						
<b>Grading (credit) Criteria</b>	<p><b>Grading Policy</b></p> <p>Homework, and pop quizzes – 10%</p> <p>Exam 1 – 20%</p> <p>Exam 2 – 20%</p> <p>Projects – 50% (5 projects, each worth 10%)</p> <p><b>Grading:</b></p> <p><b>Grades are not rounded in any way so do not ask me to round them</b></p> <table border="1"> <tr> <td>A+</td> <td>98 and above</td> </tr> <tr> <td>A</td> <td>92 - 97 (92 or more and less than 98)</td> </tr> <tr> <td>A-</td> <td>90 - 91 (90 or more and less than 92)</td> </tr> <tr> <td>B+</td> <td>88 - 89 (88 or more and less than 90)</td> </tr> <tr> <td>B</td> <td>82 - 87 (82 or more and less than 88)</td> </tr> <tr> <td>B-</td> <td>80 - 81 (80 or more and less than 82)</td> </tr> <tr> <td>C+</td> <td>78 - 79 (78 or more and less than 80)</td> </tr> <tr> <td>C</td> <td>72 - 77 (72 or more and less than 78)</td> </tr> <tr> <td>C-</td> <td>70 - 71 (70 or more and less than 72)</td> </tr> <tr> <td>D</td> <td>60 - 69 (60 or more and less than 70)</td> </tr> <tr> <td>F</td> <td>Below 60</td> </tr> </table>	A+	98 and above	A	92 - 97 (92 or more and less than 98)	A-	90 - 91 (90 or more and less than 92)	B+	88 - 89 (88 or more and less than 90)	B	82 - 87 (82 or more and less than 88)	B-	80 - 81 (80 or more and less than 82)	C+	78 - 79 (78 or more and less than 80)	C	72 - 77 (72 or more and less than 78)	C-	70 - 71 (70 or more and less than 72)	D	60 - 69 (60 or more and less than 70)	F	Below 60
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<b>Comet Creed</b>	<p><i>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:</i></p> <p><i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i></p>																						
<b>Additional University Policies</b>	Please visit <a href="http://go.utdallas.edu/syllabus-policies">http://go.utdallas.edu/syllabus-policies</a> for all other University policies																						

***Descriptions and timelines are subject to change at the discretion of the Professor.***