Texas State University
Department of Computer Science

CS 2308 - Foundations of Computer Science II
Spring 2014

Catalog Description:

Fundamentals of object-oriented programming. Introduction to abstract data types (ADTs) including lists, stacks, and queues. Searching and sorting. Pointers and dynamic memory allocation. A continuation of CS 1428.

Prerequisite or corequisite : C or higher in CS 1428 : Foundations of Computer Science I

Course Objectives:

1. Develop and use appropriate algorithms.
2. Know that there are typically many algorithms for the same task (for example, searching and sorting).
3. Implement a divide-and-conquer algorithm to solve an appropriate problem (binary search).
4. Have an introductory knowledge of the time/space efficiency of various algorithms.
5. Understand structured programming in terms of modules and functions.
6. Understand how to separate source code into multiple files, including header (.h) files.
7. Use pointer variables and memory operations.
8. Delete allocated memory to avoid " memory leaks. "
9. Create and use simple linked-lists.
10. Insert into, delete from, and traverse a linked structure.
11. Understand the principle of the Abstract Data Type (ADT) and, in particular, the separation of interface and implementation.
12. Implement user-defined data structures in a high-level language.
13. Compare and contrast the costs and benefits of dynamic and static data structure implementations.
14. Have an introductory understanding of object-oriented programming.
15. Write a program using an array of objects.
16. Design, implement, test, and debug simple programs in an object-oriented programming language.
17. Describe how the class mechanism supports encapsulation and information hiding.
18. Write programs that use each of the following data structures: arrays, structures, strings, and linked lists.
19. Describe and understand concepts of Stacks and Queues.
20. Be able to create, compile, and run a program in a Unix style, command-line environment.

INSTRUCTOR: Husain Gholoom

CLASS TIME:	Section 001	MWF 10:00 a.m. - 10:50 a.m.	DERR 235
CLASS TIME:	Section 002	MWF 11:00 a.m. - 11:50 a.m.	DERR 235

OFFICE: Nueces 222

E-MAIL: **hag10@txstate.edu**

(You can expect a reply to your e-mail if you provide the correct reply e-mail address; however, do not depend on responses at night or over the weekend.)

WEB PAGE: **www.husaingholoom.com**

OFFICE HRS: **(tentative)**

MW	9:00 a.m.	-	10:00 a.m.
MW	2:00 p.m.	-	3:30 p.m.

Others by appointment.
(Appointments need not be made during regularly scheduled office hours.)

NOTE: There are many additional places to obtain assistance. For example, tutors are available in MCS 593, CS Dept lab assistants are available in MCS 590, and your lab instructors will hold office hours in their respective offices.

TEXTBOOK: **Starting Out with C++: From Control Structures through Objects,**
                7th Edition   (as *needed)*
Author: Gaddis, Tony
Publisher: Addison-Wesley, ISBN-13: 978-0132576253

GRADING POLICY:

Attendance	**Required**
Quizzes	**10 %**
Programming Assignment	**20 %**
2 Major Exams:	
Exam I	**20 %**
Exam II	**20** %
Final Exam (comprehensive over programming concepts)	**30 %**

Note: You are *required* to show your Texas State student (photo) ID to your instructor on exam days. A driver's license is not adequate. Exam scores will be recorded as zeros until your Texas State student ID is presented.

Quizzes over recently covered material are **not** typically announced in advance. Expect one every day, and you will never be caught unprepared. Quizzes will be given at the beginning of class. Students who arrive late will not be given additional time to complete a quiz that was administered that day. Quizzes *cannot* be made up .

Major exams will **be** announced at least one week in advance. They are typically scheduled in the sixth and eleventh weeks of the semester; however, the actual dates may be adjusted to benefit the students. *Exams cannot be made up .*

No cell phones, recording/storage retrieval devices, or calculators are allowed during quizzes or exams. A grade of zero will be recorded when any such device is determined to be in a student's possession during a quiz or major exam.

FINAL EXAM SCHEDULE:

C.S. 2308.001	**Will be on:**	**Friday May 2nd / 2014**
	Exam Time:	**11:00 a.m. - 1:30 p.m.**
C.S. 2308.002	**Will be on:**	**Monday May 5th / 2014**
	Exam Time:	**8:00 a.m. - 10:30 a.m.**

Final exams will be administered *only* **on the day and at the time indicated in the university exam schedule.**

GRADING SCALE:

Determination of letter grade in the course :
            semester average >= 89.5 A
        79.5 <= semester average < 89.5 B
        69.5 <= semester average < 79.5 C
        59.5 <= semester average < 69.5 D
        semester average < 59.5 F or U

NOTE: The final grade for the course cannot be higher than the student's highest test score.

Programs are very important to this course. Therefore, **ALL** programs **MUST** be turned in to pass the course. A **'good faith'** effort must be demonstrated for each program turned in or a grade of 'F' will be assigned in the course. ***Programs that contain compilation errors or produce incorrect output will automatically receive a 50% penalty.*** To receive **any** credit for a programming assignment, the source code (along with appropriate support files) must be submitted **electronically** as well as in **paper** form. If both the paper and the electronic copy are not available to the grader on the date the programming assignment is due, a grade of **zero** will be assigned. The electronic copies **must** match the paper copies, or a grade of **zero** will be assigned.

Alert: Time permitting programs will be run through an Internet service designed for detecting plagiarism in software code.

LATE POLICY: Assignments should be placed on the central desk **AT THE BEGINNING** of class on the day they are due. This does not mean fifteen minutes or ten minutes or even **five** minutes into the lecture. This means **at the beginning.** Regardless of the deadline set, there will always be people who want it extended.

Now that the deadline **for full credit** has been established, **please respect this deadline, and plan accordingly.**

ANY assignments submitted after the time class is *scheduled* to begin are considered *late.* Such assignments may be turned in any time *BEFORE* class is dismissed on the *due date* but will receive a **20%** penalty *unless* accompanied by *official* (an *original, not* a Xerox copy) documentation. *Only* assignments turned in while class is in session in DERR 240 will be accepted unless the assignment is accompanied by *official* (an *original, not* a Xerox copy) documentation.

Turning in work **early** is discouraged; however, if it is necessary to do so, bring the assignment, **with a note of explanation attached,** to the secretary of the Computer Science Department in Nueces #247.

Each time you turn in an assignment to Nueces #247, whether it is early or *excused* late, *remember to have the secretary initial each assignment plus note the date and time that each assignment was turned in, or NO credit will be assigned.* (This policy is *NOT* designed for students who fail to attend the lecture and the work of repeat 'offenders' will no longer be accepted early.) *Three strikes (early and/or excused* late), *and you're out!*

Each time you turn in an assignment to Nueces #247 whether it is early or *excused* late, it is *highly* recommended that you send an e-mail to your instructor as well.

NO CREDIT WILL BE GIVEN TO ASSIGNMENTS PLACED UNDER MY OFFICE DOOR OR TO THOSE ATTACHED OUTSIDE MY OFFICE DOOR VIA TAPE, TACKS, ETC. NO OTHER "LATE" ASSIGNMENTS WILL BE ACCEPTED!!! NO EXCEPTIONS!

ALLOW FOR NATURAL DISASTERS! The computer system used may 'go down', the printer queues may be 'backed up' on the day an assignment is due, the bus was late, flash drives may have been left 'somewhere', etc. These types of events do *NOT* excuse late work.

GRADE DISPUTES must be handled *in my office* and **must** be discussed within *one week* of the return of the graded homework during regularly scheduled class time. (This means within *one week* from the date the assignment is *returned.* It does *NOT* mean one week from the date *you* decide to pick up the returned assignment.) You may *show* me a problem related to your grade at the front desk in the classroom *after* a lecture; however, for complete discussion and possible resolution, you *must* come by the office where all records are readily available. *Come prepared with the graded assignment in hand, and be able to access the electronic version of your work from my office.*

KEEP all graded lecture assignments (especially the electronic copies) until you have received a grade in the course you are willing to live with. This will help argue your case in the event of a grade discrepancy. You will need proof of your work in both an electronic and a graded paper form. *(Without the ability to access the electronic copy of your work from my office at the time of your grade dispute, the grade on record stands as is.)*

ACADEMIC OFFENSES:
All assignments submitted for a grade should reflect the work of the *individual* student unless otherwise established in writing by your instructor. Violations will be dealt with according to Academic Procedures and Policies as outlined in the **Texas State Student Handbook.**
Go to **http://www.dos.txstate.edu/handbook.html,** and click on **Academic Honor Code** to **3 of 6**

review **Academic Offenses** and the **Penalties for Academic Dishonesty** that those procedures listed below may have been updated without my express knowledge.
Note: Recall that if time permits, programs will be run through an Internet service designed for detecting plagiarism in software code.

ATTENDANCE POLICY: Class attendance *is highly recommended.* You will be held responsible for material covered in the lectures. Some of the material covered in lectures may not be readily available elsewhere. You are responsible for obtaining assignments and notes *from fellow classmates* for any days missed. I recommend that you obtain the names and phone numbers of several classmates in the event that you are forced to miss a day of class.

If you choose to attend class, plan on staying the *entire* time *unless* you inform the instructor *in advance* that you will be leaving early.

Except where permission is specifically granted, *all* electronic devices, including computers, cell phones, pagers, etc. should be kept *out of sight* and turned *off;* or, in the case of cell phones, *on vibrate* during lecture. Watching someone constantly reading/sending e-mail, checking a Facebook account, tweeting, texting or checking their phone for messages is distracting at best, so don't do it! If you are expecting a 'contact' that falls under the 'emergency' category, set your phone, pager, etc. to *vibrate,* and let your instructor know *in advance* that you might have to leave the classroom in order to deal with a possible 'situation.'

E-MAIL notifications related to this class will be regularly sent to your **Texas State e-mail account.** If you do not check it on a regular basis, forward your Texas State e-mail to an e-mail account that you *do* check on a regular basis.

ABSENCE POLICY: If you are absent at the time of a *quiz or exam ,* a grade of zero will be recorded.

There will be *NO* make-up *quizzes* and *exams.*

DROP POLICY: (Refer to the Academic Calendar).
- Automatic "W" deadline and last day to drop a class ends **5:00 p.m. Thursday, March 20.**
- Last opportunity to *withdraw* from the University ends **5:00 p.m. Thursday , April 17.**
- Students who withdraw from the University after the automatic **"W"** date will be assigned a **"W" or an "F" or an "U" based on class performance up to that point in the semester.** A "W" will be assigned **only** if the class average is *passing* on the day the withdrawal procedure is **officially completed.**

Note: Contact the Registrar's Office as to the proper procedure to follow in order to successfully complete the drop/withdrawal process. If you decide to withdraw from the University *after* the automatic "W" date previously mentioned, be sure to check with your instructor *prior* to completing the withdrawal procedure in order to verify whether you will be receiving a "W" or an "F". Contact the Registrar if you have any further questions.

It is *your* responsibility to make sure the drop/withdrawal process is complete. Do *not* come to me later and say that you "thought" you had dropped but the process did not "go through" expecting me to change a grade of 'F' to a 'W'. Be sure to check your revised schedule to make sure the course dropped is no longer listed.

ADA Compliance: Students with special needs as documented by the Office of Disability Services who require accommodations should identify themselves to the instructor as soon as possible but no later than the **12th class** meeting in a long session and no later than the 4th class meeting during a regular summer session. Students with special needs who have not already done so will be required to contact the Office of Disability Services in order to establish accommodations. Every effort will be made to secure the necessary accommodations to facilitate students with special needs/disabilities in order to enhance their performance in the classroom.