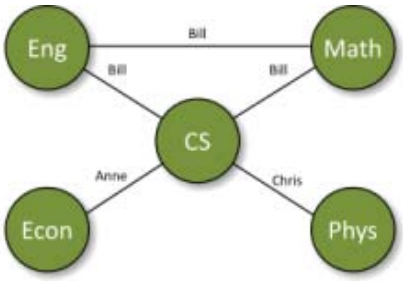
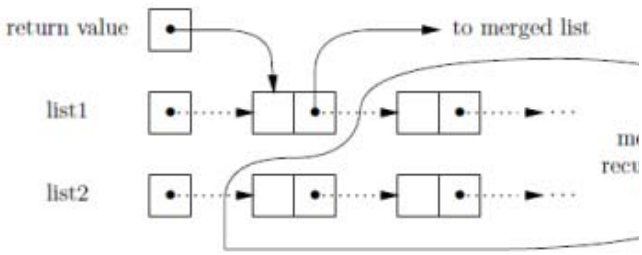
CSCE 2100.001, Spring 2012





What: CSCE 2100.001 **Instructor:** Ian Parberry
Where: NTDP D201 **Office**: F209
When: TR 2:00-3:30pm **Office Hours:** TR 3:30-5:30pm

Prerequisites

CSCE 1040

Recitation

There will be an optional Recitation section for this class on Fridays 10:00-11:00am in NTDP D201, starting January 27. Due to a conflict, the Recitation will be moved to NTDP D215 on Friday, February 24.

Textbook

Alfred Aho and Jeffrey Ullman, *Foundations of Computer Science*, available for free download.

Learning Outcomes

Students will demonstrate:

1. A solid foundation in conceptual and formal models.
2. The ability to use abstraction in the design and description of algorithms.
3. Use of C++ classes to implement trees, and lists.
4. Application of big-Oh notation to evaluating and comparing algorithms.
5. Use of tree, and list data structures in design of software.
6. An ability to apply combinatorics in solving real-world problems.

Topics

- C++ programming
- Iteration, induction, and recursion
- The running time of programs
- Trees

- Lists
- Combinatorics
- Probability

Grading

- Homework (20%)
- Programs (20%)
- Quizzes (announced and unannounced) (10%)
- Midterm Examination (25%)
- Final Examination (25%)

Proposed Schedule

	Date	Material
1.	Tuesday, January 17	Introduction
2.	Thursday, January 19	Debugging
3.	Tuesday, January 24	C++
4.	Thursday, January 26	C++
5.	Tuesday, January 31	Recursion
6.	Thursday, February 2	Induction
7.	Tuesday, February 7	Induction
8.	Thursday, February 9	Lists
9.	Tuesday, February 14	List implementations
10.	Thursday, February 16	Stacks
11.	Tuesday, February 21	Longest common subsequence
12.	Thursday, February 23	Trees
13.	Tuesday, February 28	Recursion on Trees
14.	Thursday, March 1	Binary Trees
15.	Tuesday, March 6	Priority queues
16.	Thursday, March 8	Heaps
17.	Tuesday, March 13	Review for Midterm Examination
18.	Thursday, March 15	MIDTERM EXAMINATION
19.	Tuesday, March 27	Performance measures
20.	Thursday, March 29	Iteration runtime analysis
21.	Tuesday, April 3	Recurrence relations
22.	Thursday, April 5	Recursion runtime analysis
23.	Tuesday, April 10	Combinatorics
24.	Thursday, April 12	Combinatorics
25.	Tuesday, April 17	Probability
26.	Thursday, April 19	Advanced C++ (templates, operator overloading)
27.	Tuesday, April 24	The Standard Template Library
28.	Thursday, April 26	The Standard Template Library
29.	Tuesday, May 1	TBA
30.	Thursday, May 3	Review for Final Examination

	Thursday, May 10, 1:30-3:30pm	FINAL EXAMINATION

Lecture Notes

1. Introduction: slides only, long version with space for notes,
2. Debugging: slides only, long version with space for notes,

Supplementary Videos

Take a look at some videos of my lectures.

Cheating Policy

The Department of Computer Sciences cheating policy will be adhered to. Any student caught cheating *will receive a grade of F* for this course, and further disciplinary action will be taken. Cheating includes, but is not limited to, all forms of plagiarism and misrepresentation. See the UNT Center for Student Rights and Responsibilities web page for more information.

SETE

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Americans With Disabilities Act

The Computer Science Department cooperates with the Office of Disability Accommodation to make reasonable accommodations for qualified students (cf. Americans with Disabilities Act and Section 504, Rehabilitation Act) with disabilities. If you have not registered with ODA, we encourage you to do so. If you have a disability for which you require accommodation please discuss your needs with me after class or submit your written Accommodation Request on or before the fourth class day.

Created January 13, 2012. Written in HTML 4.01 and CSS 3 using vi. Last updated January 20, 2012.