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Fall 2004

CS 242: Introduction to Computer Science III

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CS 242: Introduction to Computer Science III
Fall 2004

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Course Description

This is the final course in the three course sequence "Introduction to Computer Science" offered by the Computer Science department, WSU. It focuses on building a number of abstract data types such as stacks, queues, trees and tables. We continue to study the C++ object-oriented concepts such as Inheritance, polymorphism and template handling. We also start learning to analyze the complexity of algorithms in this course.

Note: For all CS 242 students, concurrent registration into CS 242 lab is a must.

Textbook

Data Abstraction and Problem Solving with C++, 4th edition, Frank Carrano and Janet Prichard, 2001 (required).

Starting out with C++, Alternate 4th edition, Tony Gaddis, 2003 (required).

Language

Microsoft Visual C++ 6.0 (also available in WSU Dunbar Library).

Grading

The course grade will be the weighted sum of four grades. Grading will be straight scale (90-100 A, 80-89.9 B, 70-79.9 C, 60-69.9 D, below 60 F). These numeric thresholds may be lowered due to clustering, but will not be raised.

- **Programming Projects**

    There will be four programming assignments to be done individually and handed in by the due date mentioned in the class. No late submissions are accepted. Programs must be written well in a modular fashion with proper indentation, style, and documentation. Programs will be graded based on correctness, efficiency and documentation.

- **Laboratory Exercises**

    There is a lab section for this course, in which the students familiarize themselves with the concepts taught in the class or sometimes trying new concepts. Labs are handled by Graduate Teaching Assistants who will guide and check the student assignments. There will be eight laboratory assignments and each will include the following:

    - A prelab exercise due at the beginning of next lab section
    - An inlab assignment to be completed during the lab session

- **Examinations**

There will be one midterm and one final exam. The midterm will be held during the 5th week of the quarter. Missed exams, if any, can be made up only in case of emergency or work conflicts and require proper supporting documentation. The final exam is scheduled during the final week of classes and all students are required to take it as per the announced schedule.

Work load	Weight (%)
4 Programming Projects (@ 9%)	36
8 Laboratory Exercises (@ 3%)	24
1 Midterm (@20%)	20
1 Final Exam	20

Academic dishonesty

Students are encouraged to share ideas by discussing with others. However, all the work you submit should be of your own. Submitting the code of others is regarded as cheating. All the students who are involved in such an activity will receive a grade of F. Also read and understand the WSU policy for academic honesty and integrity http://www.wright.edu/students/judicial/stu_integrity.html

Additional Information

Information regarding the course readings, assignments, labs and exams will be posted on the course web page. Students are expected to check the web page on a regular basis for any updates. The instructor reserves the right to modify any of the course policies, schedule and due dates.

Tentative Schedule

Week	Topic	Readings
1	Software Engineering and Design Problem Solving and Recursion	Ch. 1, 2, 5
2 – 3	Inheritance & Virtual Functions ADT Development Methodology, STL List Class	Ch. 11.10 – 11.13, 15 (Gaddis) Ch. 3, 4
4	C++ Templates and Exceptions	Ch. 16 (Gaddis)
5	The Stack ADT, Stack Applications	Ch. 6
6	The Queue ADT, Queue Applications	Ch. 7
7-8	Searching and Sorting Algorithms Computational Complexity	Ch. 9
9-10	Binary Search Trees Priority Queues & Heaps	Ch. 10, 11
Finals Week	Final Exam: Thursday, November 18th, 8:00 – 10:00 P.M.	Everything!