CS030 – Introduction to Computer Science II  
Fall, 2005

Course Information

OVERVIEW: This is the second introductory course in Computer Science. The emphasis will be on formulating and thinking with abstractions in order to achieve effective problem solving. We will be improving our general programming skills using Java as our primary language. This work will take place within the context of learning about the data structures that serve as the skeleton for all computer programs. The data structures we will study include stacks, queues, lists, trees and graphs. In addition to basic data structures, we will be studying and implementing algorithms that utilize them.

PREREQUISITES: successful completion of CS10 Introduction to Computer Science I.

COURSE OBJECTIVES: From the Westmont Catalog: “Introduction to Java programming. Abstract data types including lists, stacks, queues, and trees. Sorting and searching algorithms. Big-O notation. Graphical user interface design. Software testing and program verification.”

It is expected that satisfactory completion of the course will enable students to succeed in any of the upper-division courses of the CS major. The successful student in this class will also be sufficiently skilled to tackle medium-sized programming projects regardless of discipline (e.g., Biology, Chemistry, Physics, Psychology, etc.) or programming language (e.g., C++, Java, Lisp, Fortran, etc.).

LOCATION: Porter Hall 4

DAYS & TIME: Tuesday & Thursday, 1:15-3:05pm

TEXT: Classic Data Structures in Java, Timothy Budd. Addison Wesley. ISBN 0201700026. [required]

COURSE WEBPAGE: http://www.westmont.edu/~iba/CS030/CS030.html

Instructor Information

INSTRUCTOR: Dr. Wayne Iba

OFFICE: New Math/CS Modular Building

OFFICE HOURS: TBA

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Course Assignments, Requirements and Policies

ASSIGNMENTS: Assignments will be given periodically with specific due dates. Approximately one assignment per week will be required. Generally, assignments will consist of one or more complete programs or program fragments. Some of the assignments will comprise a larger project. Assignments are graded on content, correctness, documentation and style of their submitted work. Unless otherwise specified, assignments will be due at the start of class on the date given; late individual assignments will not be accepted.

CLASS PRESENTATIONS: Students may be required to make a presentation to the class. The presentations will describe some topic of data structures as assigned.

TESTS & EXAMS: There will be one mid-term and a final exam. There will also be zero or more surprise quizzes; the lowest quiz score will be dropped. Exams must be taken at the scheduled time unless prior arrangement is made with the instructor. You may not make-up a surprise quiz.

ATTENDANCE: Attendance is not required for grading purposes. However, students are responsible for the material covered and the assignments whether they attend or not. Surprise quizzes may not be taken at a later time under any circumstances.

GRADING: Students will be evaluated on how well they master the skills needed for database design. Letter grades for the course will be assigned as follows: A: [0.9,1.0], B: [0.8,0.9), C: [0.7,0.8), D: [0.6,0.7), and F: <0.6. The final grade will be based on the student's performance on course work. The following percentages will weight the final grade: assignments - 50%, class presentation - 10%, surprise quizzes - 10%, mid-term exam - 15%, final exam - 15%.

ACADEMIC HONESTY: As in every area of life, you are expected to behave honestly within the context of this class. Do not attempt to receive credit for work that is not your own without properly acknowledging sources via appropriate citations or references. You are encouraged to get help from your peers but make sure you acknowledge such help and that you subsequently understand the help you received. The consequences of violating the trust I implicitly extend to you will be according to Westmont policy; but more serious will be the damage done to our academic relationship.