

**ECE G205, Fundamentals of Computer Engineering**  
**Fall 2004**

**SYLLABUS**

The class meets Monday and Wednesday from 1:30pm to 3:10pm in 107 Robinson  
(The class is also video streamed for remote students)

**Instructor:**

Stefano Basagni  
Office: Dana 312  
Telephone: 617 373 3061  
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Office hours: Wednesday from 3:30pm to 5:30pm

**Teaching Assistant:** TBA

**Textbook:** (1) *Introduction to Algorithms*, second edition, T. H. Cormen et al., McGraw-Hill, 2001. (2) *C++, How to Program*, fourth edition, T. H. Deitel and R. L. Deitel, Prentice Hall, 2002. (3) Notes of the instructor.

**Course Objectives:** This course is aimed to give a comprehensive introduction to the study, design and analysis of efficient basic data structures and algorithm. C++ will be used (basic C programming is a prerequisite for this class).

**Topics:** Computational problems and algorithms. From algorithms to programs. Measuring program efficiency: Time complexity and space complexity. C++ basics and recursion. Abstract Data Types and C++ classes. Basic data structures (in C++): Arrays, pointers and structs, stack and queues, linked lists. Fundamentals of searching and sorting. More complex data structures: Trees and graphs and related algorithms.

**Grades:** Homeworks: 20%. Midterm exam: 35%. Final exam: 45%.

Grades are determined from the total points as follows: 96-100: A; 90-95: A-; 85-89: B+; 80-84: B; 75-79: B-; 70-74: C+; 60-69: C; 50-59: C-; < 50: F.

**Anticipated Test Dates.** Midterm: 10/20/04. Final: TBA.

**Student Responsibilities:** Homeworks are due in class on the specified date. Turn in what is completed by the deadline for partial credits. No late submission will be accepted. ("No shows" will obtain 0 points.) *If  $k$  is the total number of homework assigned, at least  $\lceil \frac{k}{2} \rceil$  of the homework have to be turned in for passing the class with more than a B.*

All submissions must be your own work. Identical, or semi-identical assignments will not be accepted.

Class attendance is responsibility of each individual. If a student should elect not to attend a class, s/he is responsible for any handouts, announcements, reading material and content of missed lecture.

Scholastic dishonesty (e.g., cheating, plagiarism, collusion, record falsification, etc.) will be punished according to NU policies and standards.

Further information can be found at: <http://www.ece.neu.edu/courses/eceg205/2004fa/>

*The present syllabus is intended as an outline of the class and it may be subject to modifications. Updated information are maintained in the class web page.*