

CS2223

ALGORITHMS

B06

INSTRUCTOR: Stanley Selkow, sms at wpi.edu

Fuller-147, 508-831-5449

Office Hours: Monday, Thursday and Friday 9:00 → 10:00

Tuesday 10:00 → 11:00

TAs/SAs: TA/SA office hours will be in FL-A22

- Juan Li, juanli at cs.wpi.edu

- Rui Lu, kkboy at wpi.edu

- Andrey Sklyar, skyar at wpi.edu

Office Hours: M: 2:00PM→4:00PM, Tu: 6:00PM→8:00PM,

W: 4:00PM→6:00PM Th: 2:00PM→4:00PM, F: 4:00PM→6:00PM

TEXT: Cormen, Leiserson, Rivest & Stein, *Introduction to Algorithms*, 2nd edition
McGraw-Hill, 2001.

GOALS OF COURSE:

- learn techniques to design and analyze algorithms,
- learn techniques to make programs more efficient,
- study new data structures.

EXPECTED BACKGROUND:

- ability to write well-structured, recursive programs, using abstract data types,
- introductory data structures,
- discrete structures, such as may be acquired in CS2022/MA2201.

EVALUATION FOR GRADING:

Homework - 40%

The homework will consist of written assignments and programs.

Assignments and programs are due 9:00 a.m. of the due date.

Since solutions will usually be posted when homework is collected, late

homeworks will be graded, but it is not sure if these grades will be counted.

Programming may be done in the recursive language of your choice on the machine of your choice. However, the language must provide access to the system clock and a random number generator. When you submit a program for homework, you must submit a listing of the program and sufficient test cases to convince the grader that your program works correctly.

Exams - 60%

The two open-book, open-notes exams will take place Thursday, November 16 and Thursday, December 14.

Any changes in the above schedule will be announced well in advance. There

will be no surprise, quickie exams.

Discretion - ?%

The class will be interactive, and material will be developed in class.

Numerical

final grades which fall on the border between letter grades will be influenced by classroom participation.

SYLLABUS:

Background and introduction to analysis

Review of data structures

Greedy techniques

Divide-&-conquer techniques

Dynamic programming

Exploring graphs

Probabilistic algorithms

Other algorithms

ELECTRONIC MAIL: Mail addressed to “cs2223-all at cs” will be sent to the students, the TAs, and the Instructor of this course. Mail sent to “cs2223-staff at cs” will be sent to the TAs and the Instructor of this course. If you would like to be added to or removed from the class mailing list, then consult the URL

<http://www.cs.wpi.edu/Resources/majordomo.html>

WEB: Our course materials will be available on the Web from the URL:

<http://www.cs.wpi.edu/~sms/cs2223>

CHEATING: You are encouraged to work with other students. In fact, it is my experience that students who form study groups to discuss the material together generally perform better. However, your homeworks and exams are your responsibility **alone**. WPI's academic policy can be found at

<http://www.wpi.edu/Pubs/Policies/Honesty/>