

Winter 2018

Prof. Rafail Ostrovsky

Introduction to Algorithms and Complexity

First lecture: Monday, January 8th, 12noon-1:50PM

CS180

When/where: WINTER 2018, M,W 12noon-1:50pm La Kretz Hall Room 110;

Prof: Rafail Ostrovsky;

Office: Egnineering 6, Phase 2, Office 475 (4th floor)

Office hours: Each Wednesday 2-3pm or by appointment. or by appointment.

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Description: Introduction to design and analysis of algorithms. Design techniques: reduction, divide-and-conquer, greedy method, dynamic programming, network flow; choice of data structures and representations. We will cover complexity measures including time and space, upper and lower bounds, asymptotic complexity; NP-completeness, use of randomness. If time permits, I will present advanced topics, such as PSPACE and other complexity classes.

Prerequisites: CS32, CS61.

Textbook: *Algorithm Design* by Jon Kleinberg and Eva Tardos, published by Addison-Wesley.

Grading Policy:

- Homework: 15%. HW will be assigned most weeks on Wednesday, due the following Wednesday.
- Midterm 40%. The midterm will be held on **February 21st** during normal lecture hours.
- Final 45%. The final will be held during final exam week. All exams will be closed book.