

Course Home Page: <https://groups.google.com/forum/#forum/pitt-cs-1510-fall-2014> !

This group will be used for announcements. The course group is the best place to ask general questions (e.g. a question about a particular homework problem). This group will be monitored by the instructor, but often other students can provide a quicker answer than the instructor.

Instructor: Kirk Pruhs

Office: 6415 Sennott Square

Phone: 624-8844

Email: [kirk@cs.pitt.edu](mailto:kirk@cs.pitt.edu) Please use the course group for general questions about assignments, etc. I do not regularly read email at other addresses, such as my gmail account.

Office hours: 10:45-12:00 Monday and Friday, and 10:45 - 11:30 on Wednesday. If you can catch me in my office on these days, I'm probably happy to talk to you unless I have a paper/grant deadline.

TA: Michael Nugent

Office: 6406 Sennott Square

Email: [mpn1@pitt.edu](mailto:mpn1@pitt.edu)

Office Hours: 1:00 -2:30 Tuesday and 10:30-12:00 Thursday

**Course Meeting:** The course will meet Mondays, Wednesdays and Fridays from 9:30-10:45 in 5129 Sennott Square. There will be approximately 27 classes, which is standard for a semester course.

**Text:** The official text is *Foundations of Algorithms* by Neapolitan and Naimipour. Any edition of the textbook is fine for this class. You are welcome to consult other texts if you prefer. Some other good texts are authored by: 1) Udi Manber, 2) Brassard and Bratley, 3) Cormen, Leiserson, Rivest, and Stein 4) Sara Baase, and 5) Kleinberg and Tardos. Many students don't find a textbook particularly useful. Disclaimer: If you choose to not follow the official text, then you may not later complain that you were disadvantaged because you opted not to use the official text.

**Prerequisites:** CS 1501, and CS 1502. If you take this class without these prerequisites, you forfeit your right to complain that the class is at an inappropriate level.

**Course Content:** The main goal of the course is to learn to think algorithmically like a "real" computer scientist. This course is different than CS 1501 in that we will be designing our own algorithms, as opposed to learning algorithms. Most class time will be devoted to examples of algorithm design for particularly interesting problems. There will be homework assignments due almost every class. It is expected that most of your learning will come from the process of solving the homework problems. Exams will in large part be based on the homework. We will cover the following topics in the following order:

- Deciding the Correctness of Algorithms (Chapter 4)
- Dynamic Programming (Chapter 3)
- Reductions and NP-completeness (Chapter 9)
- Parallel Algorithms (Chapter 10)

**Grading:** Grades will be based on homework, classroom participation, and two midterm exams. Homework will constitute 30% of the final grade. Midterm exams will constitute 60% of the final grade. Attendance will be taken and, along with class participation, will count for the remaining 10% of the grade. In the past, most students have found the course material quite challenging.

I will subjectively set the grading scale at the end of the semester. You are not in competition with other students. I have no set numbers of A's, B's etc. I strongly suggest you cooperate with each other to understand the material. This is in all students' best interests. If a student's homework scores are conspicuously/suspiciously higher than a student's exam grades, I reserve the right to base the course grade on only the exam scores, and classroom participation.

**Homework Policy:** You may do your homework in groups of 2 or 3 people if you wish. Each group need only provide one write-up. Write-ups must use L<sup>A</sup>T<sub>E</sub>X, <http://en.wikipedia.org/wiki/LaTeX>. You may discuss problems with any student in the class with the provisos that you shouldn't feed others complete solutions, and you must acknowledge collaborations in the write-up. You may not seek solutions on the www, in other books, from friends outside the class, etc.

All homework is due at the start of class on the date due. No late homework is accepted. The homework will be graded by the TA. Many students will find some problems demanding. It is not expected that all students will be able to answer all the homework questions.

**Exam Scoring Appeal Policy:** You may submit an appeal in writing if you believe that your solution for a problem on an exam is "essentially fully correct". No appeals are allowed for additional partial credit; Partial credit is too subjective. Appeals will not be accepted earlier than 1 class after the exams were returned, and will not be accepted later than 2 classes after the exams were returned. Of course any clerical errors can be corrected. Note that the problem will be regraded, there is a possibility that the new grade will be lower than the original grade.

**Disability Policy:** If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact both your instructor and Disability Resources and Services, 216 William Pitt Union, (412) 648-7890/(412) 383-7355 (TTY), as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

**Missing tests:** If you are going to miss a test for unavoidable reasons then before the exam (or as soon as possible) you must contact me. If this is not possible, contact the computer science departmental secretary at 624-8490.

**Cheating Policy:** I have no tolerance for cheating. If you are caught cheating, you will receive an F grade for the course.