

ALGORITHMIC COMPLEXITY

CS601A
Spring 2004
Prof. Rebecca N. Wright

Syllabus
20 January, 2004

Location, etc:

Place: E. A. Stevens, Room 111
Time: 6:15pm–8:45pm Tuesdays
Professor: Rebecca Wright, rwright@cs.stevens-tech.edu
Office hours: 2-4pm Thursdays *by appointment only*, 216 Lieb

Textbooks:

Christos Papadimitriou, *Computational Complexity*, Addison-Wesley.
Michael Garey and David Johnson, *Computers and Intractability*, W. H. Freeman and Company.
(Reading assignments below refer to Papadimitriou except where indicated by G&J.)

Syllabus:

January 20	Introduction, Problems and Algorithms Reading: ch. 1
January 27	Turing Machines Reading: ch. 2
February 3	HOMEWORK 1 DUE Computability Reading: ch. 3
February 10	Boolean Logic Reading: ch. 4
February 17	MONDAY SCHEDULE: NO CLASS
February 24	Relations between Complexity Classes Reading: ch. 7
March 2	HOMEWORK 2 DUE Reductions and Completeness Reading: ch. 8
March 9	MIDTERM EXAM
March 16	SPRING RECESS: NO CLASS

- March 23 NP-Completeness
Reading: ch. 9, G&J ch. 1–3
- March 30 NP-Completeness, cont'd
G&J ch. 4–5
- April 6 HOMEWORK 3 DUE
NP-Completeness, cont'd
Reading: G&J ch. 6, browse Appendix
- April 13 coNP and Function Problems
Reading: ch. 10
- April 20 Randomized Computation
Reading: ch. 11
- April 27 HOMEWORK 4 DUE
Cryptography, Approximability
Reading: ch. 12, 13
- May 4 FINAL EXAM

Grading:

Homework Assignments	40%	(lowest score dropped)
Midterm Exam	25%	
Final Exam	25%	
Class Participation	10%	

Late policy:

Assignments are due at the *start* of class on their due dates. Late assignments will not be accepted. All exceptions must be cleared in advance.