

452 MIDTERM GUIDE AND ADVICE

1 Logistics and Study Tips

1. You can bring a sheet of notes to the exam which is 8.5 by 11, wrote stuff on both sides.
2. **Advice** Make up your own sheet. Making it up is itself a study aid. I have had students who copy their friends sheet before the exam. They end up failing the course.
3. Best things to look at: My slides and my HW. Make sure you know how to do the HW. Go over the solutions, even for problems you got right.
4. I have posted the midterm I gave last year, with the answers.
5. Students have asked me post MORE problems. You are better off knowing the problems and slides in this course REALLY well rather than seeking out more problems. See next two points.
6. *Good Idea* Make up problems similar to the ones I gave out and do them.
7. *Bad Idea* Memorize a lot of problems hoping that one of those shows up on the exam. This is a bad idea since the odds of that happening are very small, and you are always better off understanding the material.

GO TO NEXT PAGE FOR COVERAGE

2 Coverage

What topics will be on the exam?

1. Regular Languages
 - (a) DFA, NFA, Regex, Equivalence.
 - (b) Closure of Regular languages under lots of operations.
 - (c) Examples of Regular languages.
 - (d) Number of States for DFAs, NFAs, and Length of regex's.
 - (e) Proving languages not regular
 - (f) HW problems given about Regular Languages.
2. Context Free Grammars.
 - (a) Closure and non-closure properties of CFL's.
 - (b) Every regular language is a CFL. (We proved this using regex in class and using DFA's on the HW.)
 - (c) Chomsky Normal Form.
 - (d) Size of grammars. We measured this two ways: number of rules in a Chomsky normal form grammar or number of nonterminals in a Chomsky normal form grammar.
 - (e) Every CFL is in P.
 - (f) HW problems given about CFL's