

# CS4384/5349 Automata Theory

(ECSS 2.311 4:00-5:15pm MW)

Name: Ding-Zhu Du (instructor) Office: ECSS 3-611 Office Hours: 2:30-3:45pm Tue  
Telephone: 972-883-6615 E-mail: dzdu@utdallas.edu homepage:  
<http://www.utdallas.edu/~dx056000>

**Textbooks** : Ding-Zhu Du and Ker-I Ko, *Problem-Solving in Automata, Languages, and Complexity*, John-Wiley, 2001;

**Topics** :

- Week 1: Strings and languages;
- Week 2: Regular sets and graph representation;
- Week 3-6: Finite automata;
- Week 7-8: Context-free languages and push-down automata.
- Week 9-10: Turing machines;
- Week 11-12: Computability and undecidability;
- Week 13: Computational complexity;
- Week 14: NP-hard problems.

**Assignments** : There will be five assignments (only four top scores will be counted). Each assignment will be due at the time as shown in my homepage. **No late assignment will be accepted.** It is possible that the exam for cs5349 may contain a different set of problems from cs4384.

**Examinations** : There will be three examinations. The 1st midterm examination (for Chapters 1-2) is on 10/1, the 2nd midterm examination (for Chapter 3-4-5) is on 11/10. The final examination (for Chapters 5-7) is at 2pm on 12/12. All examinations are in class (open books/notes). It is possible that the exam for cs5349 may contain a different set of problems from cs4384.

**Weights of Assignments and Exams** : Each assignment 10%; each examination 20%. Grades will be assigned according to the total points as follows:  $A \geq 85 > B \geq 70 > C \geq 50$ .