CSE 555 Theory of computation (SLN 30755) Spring 2008

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class: TuTh 9:15–10:30 BYAC190, office hours: 13:30–3:00 TuTh

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Textbook: Michael E. Sipser, *Introduction to the Theory of Computation*, 2nd edition, Thomson

Web site: `http://thrackle.eas.asu.edu/cse555`

Homework assignments and other announcements will be given in class and on the web site.

Course description. This is a graduate course in Theory of Computation. We will cover Regular and Context-free Languages, Turing Machines, Decidability and some Complexity Theory. The material will roughly correspond to Chapters 1–7 of Sipser's textbook, but will often include more than the text covers. Anything that I expect of you to understand that is not contained in the textbook will be covered by handouts.

The course contains a non-negligible amount of mathematics, and you will be expected to understand rigorously stated definitions, read and write simple proofs and to solve problems related to formal languages and machines. This course is a natural follow-up to CSE355. It will cover substantially more material and at a deeper level than CSE355.

Assignments and grading. There will be 7–9 homework assignments during the course, a take-home midterm and an in-class final exam. The breakdown of the grade will be: homework 30%, midterm 30%, final exam 40%. All tests and some homeworks will also contain extra-credit questions. In addition, one programming assignment will be given for extra credit.

The grades $A+, A, A-, B+, B, B-, C+, C, D$, have standard cutoffs $100, 95, 90, 85, 80, 75, 70, 60, 50$. (For example, you need at least an average of 85 to get a $B+$.) These numbers may change—all I promise about them is that they will not be any higher.

If you achieve above 90% on the final exam, your course grade will be one full level higher than what you would normally get. (Thus, if by averaging according to the numbers above you should get a "C", but your final score is, say, 91, then you will in fact get a "B" in the course.)

Homeworks will be collected at the **beginning** of the class. No late homeworks will be accepted. Graded homework will be returned a week later in class.

You must solve the homework problems on your own. You may discuss the homework problems with your classmates, but you must write up your own solutions independently. Exams will be closed-book, but you will be allowed to use a sheet of paper with your own notes.

Honor Policy and ethics: The highest standards of academic integrity are expected of all students. The failure of any student to meet these standards may result in sanctions as specified in the University Student Academic Integrity Policy (for example suspension or expulsion from the University). Violations of academic integrity include (but are not limited to) cheating, fabrication, tampering, plagiarism or facilitating such activities.

It's highly unethical to bring to your instructor's attention the possible impact of your course grade on your future plans, including graduation, scholarships, jobs, etc. My job is to teach and to assess your work independently of any other consideration. I will have to withdraw you from the course if you compromise my ability to do this.

Students found to be involved in academic dishonesty will be removed from the class and a grade of "E" for the course will be submitted to the registrar. This is the least action taken. More serious actions may be taken if the situation indicates that such actions are appropriate, such as in the case of cheating during exams or on projects.