CS 483: Intro to Theory of Computation
Purdue University, Spring 2016

1   Basic info

Instructor: Elena Grigorescu, elena-g@purdue.edu.

Time/location: Tu/Th 12-1:15 pm, LWSN 1106.

Website: http://www.cs.purdue.edu/homes/egrigore/483ST16/

Piazza: http://piazza.com/purdue/spring2016/cs483 (for emails and discussions)

Text: *Introduction to the Theory of Computation* by Michael Sipser, 3rd edition, Cengage Learning.

Office hours: Tue 1:30-2:30 pm LWSN 1209

2   Description

This is an introductory, undergraduate level course on the theory of computation. We will start with simple models of computation (DFAs, NFA, PDAs). We will then focus on the fundamental mathematical model of a Turing Machine, discuss its powers and limitations, discuss computational resources that a TM might use (time, space, randomness) and the complexity classes associated with them (P, NP, PSPACE, BPP, RP).

Grading   40% for homeworks (expect biweekely)
25% for the midterm
30% for the final
5% for class participation.(good answers on piazza will be rewarded.)

3   Homework instructions

The homework will be available on *Blackboard*. The problem sets are due *before class* on the due date, in hard copy. **Late homework** may be returned by Fri 2pm on the week the homework is due, in my office. Late homework will be receive at most 80% of the grade.

Write each problem on *a separate sheet* of paper. Try to be as concise as possible in presenting your solution.

If you do not know the solution to a problem you'll receive 15% of the grade if you write "I do not know how to solve this problem" on the solution sheet and nothing else. Otherwise, your solution will be graded according to its content.

There will be an extra optional problem on some homeworks. Optional problems will not be used in computing your final score. They might however be taken into account in assigning grades for borderline cases. The 15% option does not apply to optional problems.

Collaboration policy You may discuss the problem sets with other students in the class, however you *must* write up the solutions yourself. If you collaborate, credit who you worked with. No other solution sources are allowed. No collaboration is allowed on the optional problems.

Cheating/plagiarism on homeworks or exams will result in a score of 0 and will be subject to Purdue's academic integrity policies (http://www.purdue.edu/odos/aboutodos/academicintegrity.php)

Exams policy There will be a Midterm (in class) and a Final exam. No make-up exams.

4   Emergency preparedness

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Here are ways to get information about changes in this course.

1. Course website: https://www.cs.purdue.edu/homes/egrigore/483ST16/

2. Instructor's email: elena-g@purdue.edu

3. Instructor's phone: 765 496 1185