CMSC 858F: Algorithmic Lower Bounds: Fun with Hardness Proofs
Fall 2014
Course Agenda

Instructor: Mohammad T. Hajiaghayi

July 20, 2014

1 Overview

This document details the administrative portion of the lecture from the first day of class. Particularly, this document describes the handouts provided, and the discussions about grading, homeworks (assignments), scribe notes, exam, paper presentation, project, and communication.

2 General Information

- Course Website: http://www.cs.umd.edu/ hajiagha/ALB14/ALB14.html.
- Physical Location: CSI Building, Room# 2118
- Time: TuTh, from 3:30 PM to 4:45 PM.
- Office Hours: The hour after class (confirm it in the class though), or by appointment.

3 References

Since to the best of our knowledge this is the first course by Erik Demaine at MIT and myself ever taught with focus on algorithmic lower bounds, there is no particular textbook for this course, but there are two recommended books and several useful websites.

- Computers and Intractability A Guide to the Theory of
- NP-Completeness: book by Michael R. Garey and David S. Johnson

- Johnson's followup NP-completeness Columns
- Games, Puzzles, & Computation: book by Robert A. Hearn and Erik D. Demaine
- Complexity Zoo
- A compendium of NP optimization problems

Also our handwritten notes, scribe notes, and other references will be available from course webpages (see also the sister course to this course at MIT by Erik Demaine taught simultaneously at http://courses.csail.mit.edu/6.890/).

4 Requirements

Grading for this course can be broken down into the following categories:

Three Homework Assignments:	15% (5% each)
Class Discussions:	5%
scribe Notes:	10%
Exam:	30%
Presentation:	15%
Project:	25%

However a strong project can easily help other sections of your grade as a bonus.

5 Homework

Three homeworks are given during the semester and they are due two weeks after in the class (or in the mailbox of the instuctor).

6 Scribing Instructions

Each lecture will be scribed, and these will be posted onto the course website. Scribes are due one week after the lecture date (before starting the class in the next week). Each student may scribe one or two lectures depending on the need (the load will be balanced with other tasks in the class). The student should use hand-written notes by the instructor often posted before the class as a very good source of materials and even writing. Name your files as "scribe-mm-dd-yyyy", e.g. for Sept 2, 2014, use "scribe-09-02-2014" with the latex template available from the course webpage. Lecture notes (including all necessary files and .pdf) should be emailed to the instructor at hajiagha@cs.umd.edu.

7 Exam

The exam will be based on what is covered in class (see the exact date and time in the course webpage). If you learn what is covered in the class notes, assignments, and you understand the concept and theory, you should be okay.

8 Paper and Project

You are to present a published paper specific to what we cover in this course. It is encouraged for the presented paper to be linked to the topic you are researching for your project, though this is not mandatory. Projects may be done in groups of two or three, though exceptions can be made. Please start working on the project early, and email hajiagha@cs.umd.edu, who will coordinate projects. The presentation itself should be an hour long: half the time should be spent presenting the topic, and the remaining half should be used to present your project. The project paper should be 15 pages in length (in 11pt font and one inch margin all around): The first 5 pages should be a nice lecture notes of your paper presentation; and the remaining 10 pages should contain a general background about the topic you are researching and details of your new findings. A strong project can easily help other sections of your grade as well.

9 Communication

An email was sent out to everyone who registered for the course. The instructor's email address is: hajiagha@cs.umd.edu. Please add the following to the subject line when emailing the instructor:

- "cmsc858f" (all lowercase) for course related emails.
- "assignment" (all lowercase) for assignment related emails.
- "scribe" (all lowercase) for scribe related emails.
- "project" (all lowercase) for project related emails.
- "exam" (all lowercase) for exam related emails.

Also, feel free to send the instructor an email with any suggestions you have for the class with the subject line "suggestion".