COMP-362: Honours Algorithm Design

McGill University, Winter 2018

Course Details

Instructor: Yang Cai

Office: McConnell Engineering Building (MC) 324

Contact info: `cai@cs.mcgill.ca`

Lecture room: BIRKS 111

Class times: Tuesday/Thursday 13:05–14:25

Teaching Assistants: Mingfei Zhao

Office hours: TBA

Important Links

- myCourses (WebCT Vista): `https://mycourses2.mcgill.ca/d2l/home/301832`

Contacting Instructors and Teaching Assistants

Post all your questions about assignments on the myCourses message boards so everyone can see both the questions and the answers. You may freely answer other students' questions as well, with one important exception: you may not provide solution. Of course, you can send e-mail to a teaching assistant or instructor directly for private matters; to that end, you may use the e-mail facilities provided by McGill or any e-mail account you have with any e-mail provider.

Students are expected to monitor their McGill e-mail account, myCourses for course-related news and information.

Course Description

We will cover the following topics.

- Network Flow
- Linear Programming

- NP and NP-completeness
- Approximation Algorithms

We may cover some of the following topics if time permits.

- Heuristics
- Randomized Algorithms
- Online Algorithms
- Semidefinite Programming

Textbook

The textbook of the course is

Jon Kleinberg and Eva Tardos *Algorithm Design* Pearson Education (1st Edition).

Course Prerequisites

- COMP 252
- Restrictions: NOT open to students who have taken or are taking COMP 360.

Assessment

The grade comprises the following components:

- 30% from homework problems: there will be 4 problem sets.
- 20% from the midterm exam.
- 50% from the final exam.

No late assignments will be accepted.

Plagiarism Policy

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism, and other academic offenses under the Code of Student Conduct and Disciplinary Procedures (see `www.mcgill.ca/integrity/` for more information). Most importantly, work submitted for this course must represent your own efforts and originality. Copying assignments or tests from any source, completely or partially, allowing others to copy your work, will not be tolerated.