

CSC375F Enriched Algorithm Design and Analysis

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CSC375 is the (enriched version) 3rd year undergraduate course in algorithm design and analysis. This is a standard and required course in most CSC programs throughout the world. Following most common texts for this course, our course organization emphasizes various algorithmic paradigms such as greedy algorithms, divide and conquer, dynamic programming, network flows + some more advanced or specialized topics such as linear programming and IP/LP rounding, LP duality, randomized algorithms, local search, backtracking, stream algorithms, mechanism design. These techniques will be applied to a wide variety of (well motivated) discrete computational problems with a focus on combinatorial optimization.

Course text: ‘Algorithm Design ’ by Jon Kleinberg and Eva Tardos but you can also try to use CLRS + the KT lecture notes found on the web.

The course timetable provides for 3 contact hours/week. Usually, lectures will be given on M,W at 3 and the tutorial on F3. Sometimes I may have to switch and lecture on a Friday and indeed as the term progresses we may substitute lectures for some tutorials.

The grading scheme will be based on 3 problem sets (5% each), each of which will be immediately followed by a term test (15% each), and a final exam (40%). As soon as an assignment is due (usually on a Wednesday) and collected, we will discuss the solutions in class and a term test will follow (usually on Friday). Therefore, no late assignments will be accepted. See the course web page (www.cs.toronto.edu/~bor/375f0r97) for the dates of all problem sets and tests. My standard policy regarding the grading of assignments and tests is what I call “the 20% rule”:

- You will receive 1/5 points for any (non bonus) question/subquestion for which you say “I do not know how to answer this question”. You will receive .5/5 points if you just leave the question blank.

Advice regarding assignments: Do NOT spend an excessive amount of time on any question and especially not on a bonus question. “Free time” thinking about (say) bonus questions is fine but you should not sacrifice time needed for other courses.

Plagiarism: Please read the Universities policies on plagiarism. The course grading scheme discourages plagiarism but the policies still apply.

Accessibility Needs: The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: disability.services@utoronto.ca or <http://studentlife.utoronto.ca/accessibility>

Email Policy: I try to read emails regularly but I do NOT promise to reply to all emails. Some questions suggest interesting issues and/or require a technical answer and I will respond to such questions in class so that everyone can benefit. I welcome questions and comments at all times and especially in class.

Office hours (SF 2303B): To be announced. Beyond any posted office hours, students are always welcome to make appointments and/or drop by to see if I am available. In general, I prefer communicating with people in person rather than via email.