CSC 373 – Algorithms Design, Analysis, and Complexity
University of Toronto, Department of Computer Science
Summer 2016

Course Information:

Instructor:	Lalla Mouatadid
Office:	SF 4306
E-mail:	csc373@cs.toronto.edu
Lecture Time:	Wednesday 6-9PM
Tutorial Time:	Thursday 6-7PM
Office Hours:	Weekly - TBD
Course Homepage:	http://www.cs.toronto.edu/~lalla/373s16/
Piazza:	https://piazza.com/class/imu0x9xoy3r5qt
Markus:	https://markus.cdf.toronto.edu/csc373-2016-05
Course Prereqs:	CSC263H/CSC265H1/CSC378H1/enrolment in CSC subject POSt

Grading Scheme:

Type	Percentage
Participation	5%
Assignments (3)	15%
Midterms (2)	40%
Final Exam (1)	40%

Participation is defined as: actively participating in lectures and class exercises, tutorial attendance, and picking up your marked tests and assignments.

Assignments must be submitted in PDF format by 10:00pm using Markus.
See the course website on how to submit your assignments.
Late assignments will not be accepted.

You are allowed to work in pairs (groups of 2).

Assignments must be typeset using a suitable program (e.g. LATEX). If you are not familiar with LATEX please see the course website for some useful links (in particular, there is a template for assignments). If you do not wish to use LATEX then please make sure that your assignment is formatted similarly to the template on the course website.
        The assignments and tests will require the theoretical description and implementation of algorithmic solutions for problems using pseudo-code, as well as the mathematical analysis of such algorithms. There will be no for- mal programming component on either the assignment or the exams (although, doing it yourself is valuable and encouraged!).

In order to pass the course you must obtain 40% or higher on the final exam.

Topic Outline
Standard algorithm design techniques: divide-and-conquer, greedy strategies, dynamic programming, linear programming, randomization, network flows, approximation algorithms. Brief introduction to NP-completeness: polynomial time reductions, examples of various NP-complete problems, self-reducibility.

Students will be expected to show good design principles and adequate skills at reasoning about the correctness and complexity of algorithms.

Textbook

The textbook for this course is *Introduction to Algorithms*, 3rd ed. (2009), by Cormen, Leiserson, Rivest and Stein. You have access to the second edition through the University of Toronto online library. Check the course website for supplementary references.

Communication Policy

Communication in this course (outside of lectures, tutorials, or office hours) will be through two channels: e-mail and the class forum. Email is the preferred way to contact the instructor and the teaching assistants for personal issues. Feel free to email the instructor regarding any course related personal issues.

Please use descriptive subject lines for your emails and include "CSC373", e.g. "CSC373 prerequisite waiver request" or "CSC373 special consideration request for test". We may miss emails without subject line starting with "CSC373". Please send email only from your official University of Toronto email address when contacting us if you want to receive a reply — this is required by regulations, and we cannot reply to any other email address. We will try to answer your emails in 2 working days. You should not rely on getting same-day answers (particularly near assignment deadlines).

Please post content related questions on the forum so other students can also benefit from them. Finally, **refer to the course website and the course forum at least once a week for announcements.**

Late or Missed Work Policy

Late assignments will not be accepted.

If you miss a **homework** deadline because of a medical issue or serious personal emergency, you must fill out the Special Consideration Form and provide it to the instructor as soon as possible. In case of a medical emergency, you must also submit the UofT Verification of Student Illness or Injury, completed and signed by your physician. Please check Frequently Asked Questions on UofT Health Services. If we judge your reason for missing the deadline to be valid, we will use the average mark you achieved in other homeworks to compute your mark for the missed homework.

If you miss a **test** due to a medical or other serious personal emergency, get in touch with your instructor immediately, and fill out the Special Consideration Form. In case of a medical emergency, you must also submit the UofT Verification of Student Illness or Injury, completed and signed by your physician. Please check Frequently Asked Questions on UofT Health Services. There will be no make-up test, but if we consider your reason for missing the test to be valid, we will use your final examination mark to compute your mark for the missed midterm test.

Academic Offences

University of Toronto has strict rules against plagiarism. You must not submit work belonging to others as your own. It is considered an academic offense and will be dealt with accordingly. The work you submit must be your own, and if you are going to get help from any resource (books, online resources, other people, etc.) other than the course material (textbook, course lecture notes) you must acknowledge them explicitly and give proper credit to them in your work.

For this course, you have the permission to discuss and work on assignments together with other students, but you must prepare the written solutions alone. It is fine to get help to understand, but the work you submit must represent your understanding in your words. You must be able to explain what you have submitted to the instructor orally without any previous preparation or notice during the semester. To make sure that you are writing what you have understood in your own words, do not take any notes from your discussions, wait a few hours before writing any notes related to them, and do not show your written answers to other students before due dates. Both copying assignments and allowing others to copy your assignment are strictly forbidden.

Please see the course website for other policies.