

Quantum Algorithms

CPSC 440/640, Syllabus

Instructor: Dr. Andreas Klappenecker

Office: 509B Harvey R. Bright Building

Office hours: TBD

Class schedule: MWF 12:40pm-1:30pm in HRBB 126 (note that the schedule is subject to change).

Course Goals. The course CPSC 440/640 gives a self-contained introduction to quantum algorithms, one of the most exciting recent developments in computer science.

Background. We do not expect any background knowledge in quantum computing nor in quantum physics. You should know how to multiply a matrix with a vector, but the most important prerequisite is simply an open mind.

Grading Policy. Midterm exam 25%, final project 25%, assignments 45%, culture 5%. The grades will be assigned on an absolute scale: A=90-100, B=80-89, C=70-79, D=60-69, F=0-59. I will lower the cut-offs if the grades are lower than expected.

The assignments will consist of about 6 paper and pencil homeworks and one small project. You have to submit 3 written summaries of talks or papers to satisfy your culture requirements.

Dishonesty. Cheating will not be tolerated – see the Aggie code of honor. Cheating and plagiarism will be rewarded with the grade F*.

Required Textbook

- M. Nielsen and I. Chuang: Quantum Computation and Quantum Information, Cambridge University Press, 2000.

Further information

- <http://faculty.cs.tamu.edu/klappi/qalg-f08/qalg.html>

Collaboration. For the assignments in this class, discussion of concepts with others is encouraged, but *all assignments must be done on your own*, unless otherwise instructed. Reference every source you use, whether it be a person, a book, a paper, a solution set, a web page or whatever. You must write up your assignments **in your own words**. Copying is strictly forbidden.

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