

This sheet summarizes information for the course CSC 363H 5S (“Computational Computability and Complexity”) during the Fall session of 2009 at the University of Toronto at Mississauga.

**Course
Website**

<http://www.cs.utoronto.ca/~avner/teaching/CSC363/>

The course website will always contain the most up-to-date information possible. *You are responsible for all announcements posted on the course web site as well as all announcements made in lectures and tutorials.*

**Instructor
Information**

Instructor	Office	Phone	Email	Office Hours
Avner Magen	SB 4062	SB 4062, 905-569-4741	avner at cs.utoronto.ca	Mon 14-15

Lectures

Time	Room	Instructor
Mon 11-13	NE 228	Avner Magen

Tutorials

Time	Room	TA's name
Thursday 11	CC 2134	Bryce Zimny

Tutorials begin Thursday September 17.

**Required
Textbook**

Michael Sipser, “*Introduction to the Theory of Computation*”, 2nd edition. Thomson Course Technology (2006), ISBN: 0-534-95097-3.

The textbook will be used for readings and exercises throughout the term. See the course website for additional references.

Outline

The following topics will be covered, in the order listed.

- Computability [6 weeks] — (Chapters 3, 4, 5 in the textbook): Turing machines and other models of computation; the Church-Turing thesis; decidability and semi-decidability (recognizability); diagonalization; non-decidability and the Halting problem; reducibility.
- Complexity [6 weeks] — (Chapters 7, 8, 10 in the textbook): models of efficient computation; P and NP ; NP -completeness, Cook’s theorem; self-reducibility and polytime transformations; other complexity classes.

Grading
Scheme

Item	Deadline	Weight
Exercise 1	Sep 24	3%
Exercise 2	Oct 8	3%
Exercise 3	Oct 29	3%
Exercise 4	Nov 19	3%
Exercise 5	Nov 26	3%
Assignment 1	Oct 1	9%
Assignment 2	Nov 5	9%
Assignment 3	Dec 3	9%

Item	Date	Weight
Term Test 1	Oct 15	10%
Term Test 2	Nov 12	10%
Final exam	TBA (in the period Dec 7-18)	38%

- The term test will be held during the regularly scheduled tutorial, and will be closed-book.
- To pass this course, you must achieve a mark of at least 40% on the final exam.

“20% Rule”

For the term tests and final exam, you will receive 20% of the marks on each question (or part of a question) where you answer “I don’t know” and nothing else. This is a way to encourage you to be aware of (and honest about) your level of understanding, and to discourage random guessing. This rule does not apply to assignments, where you have the time (and the responsibility) to ask questions and learn how to solve each problem.

Assignment
Submission

Assignments should be submitted at Tutorial. Exercises are to be completed individually, to help you cement your own understanding of the course material. Assignments are to be completed in groups of no more than **two** individuals. No late exercises or assignment will be accepted except for documented unusual circumstances (the TA will typically go over solutions in tutorial).

Plagiarism

Plagiarism is a form of academic offence and it is treated very seriously. **The work you hand in (assignments and tests) must not contain anyone else’s work or ideas without proper attribution.** In particular, the actual writeup of your assignments must be done in isolation from others and without copying from notes or other sources. This ensures that your solution is truly your own, and that your grade reflects your own understanding of the course material. Note that it is also a serious offence to help someone commit plagiarism. *Do not let others look at your solutions, even in draft form.*

Please do not commit plagiarism, for your own sake. If you are having trouble with the course, please come speak to us, that’s why we’re here!