CS 360 Introduction To The Theory Of Computing
Winter 2018 --- Course Outline
Schedule: T & Th: 2:30-3:50 MC 4040

Instructor: Prof. Richard Trefler
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office: DC 2336
office hours: after class and by appointment

Teaching assistant: Rylo Ashmore
office hours: tba

Description: This course covers models of compution, including
automata and Turing machines, formal languages, computability
theory, and complexity theory. Specific topics covered include:
automata theory
formal languages
deterministic and non-deterministic finite automata
regular expressions and regular languages
context-free grammars
pushdown automata
Turing machines
decidable languages
Turing recognizable languages
non Turing recognizable languages
complexity classes

Course Objectives: An indepth exposure to important topics related
to the theory of computation. An essential consideration is the
development of mathematical problem solving skills as they relate
to problems solved with computer programs.

course web page: https://cs.uwaterloo.ca/~trefler/cs360winter2018

Lecture Notes and Text: Material is covered in class with support
from the course textbook.

text book: Michael Sipser. Introduction to the Theory of Computation
(Third Edition).

Policy relating to assignments: students may discuss problems and

answers to them but must write up their own solutions, collaborative work is not allowed. Late assignments will not be accepted, except in exceptional cases.

Grading scheme:
assignments: 20%
2 in class tests: 40%
final exam: 40%

Academic Integrity:
In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. Please see https://uwaterloo.ca/academicintegrity/ for more information.

Grievance A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70, Student Petitions and Grievances, Section 4,

https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-70

When in doubt please be certain to contact the department?s administrative assistant who will provide further assistance.

Discipline

A student is expected to know what constitutes academic integrity to avoid committing academic offenses
and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an
offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about ?rules?
for group work/collaboration should seek guidance from the course professor, academic advisor, or the undergraduate associate dean. For information on categories of offenses and types of penalties,
students should refer to Policy 71, Student Discipline:

https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-71

For typical penalties check Guidelines for the Assessment of Penalties:

https://uwaterloo.ca/secretariat/policies-procedures-guidelines/guidelines/guidelines-assessment-penalties

Appeals

A decision made or penalty imposed under Policy 70, Student Petitions and Grievances (other than a petition) or Policy 71, Student Discipline may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72, Student Appeals:

https://uwaterloo.ca/secretariat/policies-procedures-guidelines/policy-72

Note for students with disabilities Accessability Services (The Office for Persons with Disabilities), located in Needles Hall,
Room 1132, collaborates with all
academic departments to arrange appropriate accommodations for students with disabilities without
compromising the academic integrity of the curriculum. If you require academic accommodations to
lessen the impact of your disability, please register with the Accessability Services at the
beginning of each academic term.