CSE 303:
Introduction to the Theory of Computation

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Basic Logistics: Who/Where/When

- **Lecture Time:** TuTh 9:45 am - 11:05 am
- **Location:** Engineering 143, West Campus

- **Instructor:** Rezaul A. Chowdhury
- **Office Hours:** TuTh 11:30 am - 1:00 pm
  online (Zoom link available on Blackboard)
- **Email:** rezaul@cs.stonybrook.edu

- **TA:** TBA

- **Class Webpage:**
  http://www3.cs.stonybrook.edu/~rezaul/CSE303-F21.html

Topics to be Covered

The following topics will be covered (hopefully)

- Computation models (finite automata, pushdown automata, and Turing machines)
- Grammars and languages accepted by major computation models (regular/context-free/unrestricted grammars, regular/context-free/Turing-acceptable languages)
- Turing-complete systems
- Algorithmically unsolvable problems
- Algorithmically hard problems

Grading Policy

- Problem solving (4 homework problem sets):

  40% (highest score 15%, lowest score 5%, and others 10% each)

  - Form groups of two for problem solving.
  - Each group will submit only one copy of their solutions through Blackboard.
  - Each group must report approximate % contribution of each member in solving each problem set.

- Midterm exam (Thursday, Oct 7, 9:45am – 11:05am, online):

  30%

- Final exam (Tuesday, Dec 14, 8:00am – 10:45am, online):

  30%

Textbooks

Recommended

- Elaine Rich.
  Automata, Computability and Complexity: Theory and Applications
  (1st Edition), Pearson, 2007.
  (can be downloaded for free from the author's website)

- Harry R. Lewis and Christos H. Papadimitriou.
  Elements of the Theory of Computation
  (2nd Edition), Prentice-Hall, 1997.

- John Martin.
  Introduction to Languages and the Theory of Computation
  (4th Edition), McGraw-Hill, 2010.