

Course title and number      CSCE 222-503 Discrete Structures for Computing  
Term (e.g., Fall 200X)      Spring 2016  
Meeting times and location      MWF 8-8:50 RICH 114

### Course Description

Provide mathematical foundations from discrete mathematics for analyzing computer algorithms, for both correctness and performance; introduction to models of computation, including finite state machines and Turing machines.

Prerequisites: MATH 151

### Course Objectives

The course will allow students to understand the relationships between logic, proofs and sets, and apply results from discrete mathematics to analysis of algorithms.

### Learning Outcomes

Students will be able to produce proofs and apply counting techniques. They will have a basic understanding of models of computation.

### Instructor

Name                      Sing-Hoi Sze  
Telephone number      845-5009  
Email address          shsze@cse.tamu.edu  
Office location        HRBB 328B

### Textbook

Rosen K.H. Discrete Mathematics and its Applications. McGraw-Hill.

### Grading

1. Homework assignments (30%): written assignments handed out every one or two weeks.
2. Two midterms (20% each).
3. One final exam (30%).

Letter grades will be assigned as follows:

90-100	80-89	70-79	60-69	<60
A	B or better	C or better	D or better	F or better

Submission of late assignments and scheduling of make-up exams should be arranged before the due date. For additional information visit <http://student-rules.tamu.edu/rule07>

### Schedule

Week	Topic
1	Logic and proofs
2	Sets
3	Functions
4	Sequences and sums

5	Algorithms and complexity
6	Induction and recursion
7	Counting
8	Permutations and combinations
9	Generalized permutations and combinations
10	Recurrence relations
11	Generating functions
12	Inclusion-exclusion
13	Relations
14	Models of computation

### **Americans with Disabilities Act (ADA)**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit <http://disability.tamu.edu>

### **Academic Integrity**

For additional information please visit: <http://www.tamu.edu/aggiehonor>

*“An Aggie does not lie, cheat, or steal, or tolerate those who do.”*