
This is a tentative syllabus as of 01/18/16. It is subject to change without notice.


**Week 1: Jan. 19–22**
Monday is a holiday
3.1 Introduction to algorithms
3.2 the growth of functions

**Week 2: Jan. 25–29**
3.2 the growth of functions
1.1 logic
1.3 propositional equivalence

**Week 3: Feb 1–Feb. 5**
1.4 predicates and quantifiers
1.5 nested quantifiers

**Week 4: Feb. 8–12**
1.6 rules of inference
1.7. introduction to proofs
2.1 sets

**Week 5: Feb. 15–19**
2.2 set operations
2.3 functions, 1-1 and onto

**Week 6: Feb. 22–26**
2.3 composition and inverse
2.4 sequences and Summations

**Week 7: Feb. 29–Mar. 4**
2.5 cardinality of a set

**Midterm Exam: March 2**
Class on March 4 is canceled.

**Week 8: Mar. 7–11**
5.1 Mathematical induction
5.2 Strong induction and well-ordering

**Spring break: Mar 14–18.**
Week 9: Mar. 21–25
5.3 recursive definitions and sequences
8.1. recurrence relations
March 25 is a reading day.

Week 10: Mar. 28–Apr. 1
8.2 Solving recurrence relations

Week 11: Apr. 4–8
8.3 divide and conquer algorithms, Masters theorem
6.1 basics of counting
6.3 permutations and combinations

Week 12: Apr. 11–15
6.5 generalized permutations and combinations
6.4 binomial coefficients and identities
The take-home Proof Test due on April 11

Week 13: Apr. 18–22
8.5 Inclusion-Exclusion
8.6 Application of Inclusion-Exclusion
2.6 Matrices (reading).
9.1 relations and their properties

Week 14: Apr. 25–29
9.3 representing relations, counting relations
9.4 closure of relations
April 29 is for review practice. No lectures

Week 15: May 2-3
9.5 equivalence relations
9.6 partial orderings
Catch up and review
Note: May 3 is a redefined FRIDAY.

Final exam:
Section 502: May 10, Tuesday, 10:30am–12:30pm, Blocker 164