MATH 302 Discrete Mathematics (Session 501)

This is a tentative syllabus. It is subject to changes without notice. The changes will be announced at the course homepage.

Textbook: Kenneth H. Rosen. Discrete Mathematics and Its Applications, 7th ed. McGraw-Hill Companies, Inc. (ISBN: 978-0-07-338309-5)

- *Week 1: Jan. 16 – Jan. 20*
  §1.1 logic
  §1.3 propositional equivalences
- *Week 2: Jan. 23 – Jan. 27*
  §1.4 predicates and quantifiers
  §1.5 nested quantifiers
- *Week 3: Jan. 30 – Feb. 2*
  §1.6 rules of inference
  §1.7 proof methods and strategy
- *Week 4: Feb. 6 – Feb. 10*
  §2.1 sets
  §2.2 set operations
- *Week 5: Feb. 13 – Feb. 17*
  §2.3 functions
  §2.4 sequences and summation
- *Week 6: Feb 20 – Feb. 24*
  §3.1 algorithms
  §3.2 growth of functions
- *Week 7: Feb. 27 – Mar. 2*
  §5.1 mathematical induction
  midterm exam: March 1st
- *Week 8: Mar. 5 – Mar. 9*
  §5.2 strong induction and well ordering
  §6.1 basic counting
- *spring break: Mar. 12 – Mar. 16*
- *Week 9: Mar. 19 – Mar. 23*
  §6.2 pigeonhole principle
  §6.3 permutations and combinations

- *week 10: Mar. 26 – Mar. 30*

  §6.4 binomial coefficients and identities

  §6.5 generalized permutations and combinations

- *Week 11 Apr. 2 – Apr. 6*

  §8.2 solving recurrence relations

  §8.3 divide and conquer algorithm, master theorem

- *Week 12: Apr. 9 – Apr. 13*

  §8.4 generating function

  §2.6 matrices

- *Week 13: Apr. 16 – Apr. 20*

  §9.1 relations

  §9.3 representing relations

- *Week 14: Apr. 23 – Apr. 27*

  §9.4 closures of relations

  §9.5 equivalence relations

- *Week 15: Apr. 30 – May 3*

  review

- final exam