

# Final Exam – topics

## Math 1165: Discrete Math

Date: Dec 12

Time: 11am – 1:30pm

Location: EPIC 2222

Format:

- True/False, Matching, Multiple Choice
- Free Response
- You may be asked to show your work
- Calculators are allowed

Textbook sections: Chapters 1 – 4

- Questions will be similar to examples worked in class, homework questions, or previous test questions

Topics:

- This is a cumulative final exam, so any topic we've covered is fair game.
- Focus on the main topics of the previous tests.
- The broad topics are
  - Proof techniques
    - Truth tables
    - Mathematical induction
    - A direct proof
  - Counting techniques
    - Combinations/permutations
  - Sequences
    - Recursive and closed form
  - Graphs/digraphs
    - Representing a digraph as a linked list (sect 4.6) – at most 1 question on this
    - Warshall's Algorithm (sect 4.8) – at most 1 question on this
  - Relations
    - properties
    - equivalence relation

Sample Questions:

Note: below is not an exhaustive list of possible questions. It is only a sample of some of the types of questions that you may see on the exam.

- Look at the 3 in-class tests
- Look at the study guides for the 3 in-class tests
- For chapter 4.6 questions: p158 #6 (only instead of finding VERT, HEAD, TAIL, and NEXT – find START, HEAD, TAIL, and NEXT)
- For chapter 4.8 questions: p175 #11, #12