Instructor: Thomas Leblé t178@nyu.edu. Office WWH 721 (Courant Institute)
Time: Class meets Tuesday-Thursday at 3:30-5:20PM in WAVE 367.
Office hours: (tentative) Wednesday 11-12AM, Thursday 2-3PM

Course description
This class is an introduction to discrete mathematics (e.g. naive finite set theory, simple combinatorics, elementary algebraic structures, graphs, logic and algorithmic reasoning). The goal is twofold:
1. An initiation to rigorous mathematical thinking, writing and critiquing.
2. A presentation of basic discrete structures which are the fundamental bricks for most mathematical constructions, as well as the natural setting for theoretical computer science.

Topics to be covered
- The language of mathematics: sets, theorems & proofs, quantifiers, Boolean logic.
- Naive set theory, operations on sets, equivalence relations.
- Elementary combinatorics: bijections, partitions, binomial coefficients.
- Working with integers: induction and recurrence, well-orderedness, divisibility.
- Elementary structures: maps, groups, permutations.
- Graph theory, trees, planarity and coloring problems.

Organisation
- Written homeworks are due on Thursday afternoon during the class. You can also send a PDF by e-mail (but not a phone picture of your solution sheet). If for any reason you miss the class, you may drop your homework in the ‘mailbox’ in front of my office until before the class.
- Medium-sized quizz every other Thursday.
- Lowest grade will be dropped for HW. No extra-credit.
- Two midterms: week of February 27th and week of April 10th (tentative dates).
- Final exam: May 11th.

Grading
- Homework 20%
- Quizzes 15%
- Midterms 20%+20% = 40%
- Final 25%
- Participation +5% (bonus)