New York University Tandon School of Engineering  
Computer Science and Engineering Department  
Preliminary Syllabus (Updated 07/07/2018)  
CS-GY 6003 Foundations of Computer Science - Fall 2018  
Tuesdays 12:25PM-2:55PM  

Professor: Joseph Vaisman  
Office: 2 MetroTech Center, 10th Floor, Cubicle 10.049B  
Email: vaisman@nyu.edu  
Office hours: TBD  

**Prerequisite:** Graduate standing.  

**Grade Breakdown:**  

<table>
<thead>
<tr>
<th>Component</th>
<th>A</th>
<th>A-</th>
<th>B+</th>
<th>B</th>
<th>B-</th>
<th>C+</th>
<th>C</th>
<th>C-</th>
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</thead>
<tbody>
<tr>
<td>Homework</td>
<td>93-</td>
<td>90-</td>
<td>87-</td>
<td>83-</td>
<td>80-</td>
<td>77-</td>
<td>73-</td>
<td>70-</td>
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<tr>
<td>&amp; Quizzes</td>
<td>20 points</td>
<td>92-</td>
<td>89-</td>
<td>86-</td>
<td>80-</td>
<td>79-</td>
<td>76-</td>
<td>72-</td>
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<tr>
<td>Mid-term</td>
<td>40 points</td>
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<td>Final</td>
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**Textbooks:** Provided by instructor (free online)  

**Course Description:**  
In this course you will learn some of the most beautiful aspects of discrete mathematics. You will also develop/improve your problem-solving techniques.  

**Course Topics:**  

- Sets.  
- Sequences and Summations.  
- Functions and Relations.  
- Introduction to Algorithm Analysis.  
- Logic.  
- Proofs.  
- Mathematical Induction.  
- Combinatorics.  
- Recurrence Relations.  
- Number Theory.  
- Graph Theory.  
- Mathematics of Computation.  

Additional topics are possible.
Moses Center Statement of Disability

If you are a student with a disability who is requesting accommodations, please contact New York University’s Moses Center for Students with Disabilities (CSD) at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd.

NYU School of Engineering Policies and Procedures on Academic Misconduct

B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:

1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person’s work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.

2. Fabrication: including but not limited to, falsifying experimental data and/or citations.

3. Plagiarism: intentionally or knowingly representing the words or ideas of another as one’s own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.

4. Unauthorized collaboration: working together on work that was meant to be done individually.

5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission has been received from the course instructor(s) or research adviser involved.

6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.