CSCI-UA 0002, Introduction to Computer Programming, NYU

General Information:

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Course Coordinator</th>
<th>Graders</th>
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<tbody>
<tr>
<td>Mr. Joel E. Kemp</td>
<td>Prof. Deena Engel</td>
<td>Pratik Goyal</td>
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<td>Phone: 212-998-3153</td>
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Textbooks:

Most of the books are on reserve at the Bobst library.

Tentatively Required: Visual Quickstart Guide to Python by Tony Donaldson
ISBN-10: 0321585445

Additional (Optional) textbooks:
Python Programming: An Introduction to Computer Science, Second Edition (Python 3.x) by John Zelle, Ph.D.
ISBN-10: 1590282418

Python in a Nutshell, 2nd Edition by Alex Martelli
ISBN-10: 0596100469

Grading:

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<th>At my discretion, there will be extra credit points on the final exam that only count towards that exam! There are no extra credit assignments!</th>
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<tbody>
<tr>
<td>Homework</td>
<td>25%</td>
<td></td>
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<tr>
<td>Midterms</td>
<td>40%</td>
<td></td>
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<tr>
<td>Final</td>
<td>35%</td>
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Total: 100%  (Letter grades abide by NYU grading standards)

In particular, there will be two midterm exams, each worth 20% of your grade. There will also be weekly, required assignments.

If you plan to continue with computer science courses such as V22.0101, you must get a grade of C or better in this course. No exceptions will be made.

Academic integrity is expected of all students in this class. For details, please visit: http://www.cs.nyu.edu/webapps/content/academic/undergrad/academic_integrity
<table>
<thead>
<tr>
<th>Concept</th>
<th>Topics</th>
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| **Introduction** | Hardware and Software Overview  
The Art of Computer Programming  
Programming Language Purpose and Usage  
Compiler vs. Interpreter |
| **Python Basics** | Downloading and Installing Python  
The IDLE IDE  
Syntax constraints  
Variables  
Statements |
| **Operators** | Arithmetic  
Combined Operators  
Increment & Decrement  
Modulus  
Logical  
Boolean |
| **Branching** | Expressions/Conditions/Predicates  
if/else/elif statements  
Nested Branches  
Random number generator |
| **Looping** | for loops  
Range  
while  
Infinite loops  
break statement |
| **File I/O** | Opening and Closing Textfiles  
Reading and Writing |
| **Strings** | Iteration  
Split() |
| **Functions** | Predefined functions  
Custom Functions  
Libraries  
Recursion  
Return Statement |
| **Modules** | 3 Styles of Imports |
| **Lists** | Iteration  
List Functions  
Slicing |
| **Dictionaries** | Hashing principles  
Keys, Values, and Items  
Iteration |
| **Extra** | Pickles  
List Comprehensions  
Map()  
Lambdas  
Sets  
Tuples |