Introduction to Computer Programming
CSCI-UA 2

Class 1
Introduction and Overview

cs.nyu.edu/courses/fall14/CSCI-UA.0002-006
On Programming Literacy

“Computers and networks finally offer us the ability to write. And we do write with them on our websites, blogs, and social networks. But the underlying capability of the computer era is actually programming—which almost none of us knows how to do. We simply use the programs that have been made for us, and enter our text in the appropriate box on the screen.”

—Douglas Rushkoff
Algorithm
Algorithm

A set of rules
An operation
A procedure
A process
A recipe
Precise step-by-step instructions
Introduction to Computer Programming

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Class 1

Introduction and Overview
Programming Languages
Low-Level

Low-level programming languages are closer to “machine language”

They are difficult (though not impossible) for humans to read and, as such, are more error-prone
Programming Languages

High-Level

High-level programming languages are closer to real syntax.

High-level languages are abstracted and therefore require interpretation.

We’ll be working with a high-level language.
Computing in Context

Hardware
Operating system
Software
Computer Code
Introduction to Computer Programming
CSCI-UA 2

Class 1
Introduction and Overview
Introduction and Overview
Python
A general purpose, cross-platform programming language

Python 3
Conceptual and technical foundation
Freely available
Clear syntax
Robust programming language
Python
In Use

Class 1
Introduction and Overview

Web and Internet development
Scientific and numeric computing
Education
Desktop GUIs
Software Development
input()
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<th>b</th>
<th>a == b</th>
<th>a != b</th>
<th>a and b</th>
<th>a or b</th>
<th>not a</th>
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Class 1
Introduction and Overview
Course Content

Introduction to Computer Programming

Computers and Programming
Math, Strings, and Variables
Basic Input and Output
Control structures
Repetition structures
Functions
Strings
Programming graphics
Data Structures
File Input and Output
Introductions

Me

Joshua Clayton
jclayton@cs.nyu.edu
Room 420, Warren Weaver Hall
Office hours
• Wednesday, 1:30–3:00 p.m.
• Thursday, 11:00 a.m.–12:30 p.m.

cs.nyu.edu/cs/faculty/clayton
Introductions

You

- Name
- Where you’re from
- Describe your computer literacy
- What interests you about this class
Syllabus

Prerequisites

No prior experience assumed

3 years of high school math required

For students considering a Computer Science major

For students considering or pursuing a Computer Science minor

For students interested in programming

C or better is required to take further CS classes as a major
Syllabus

Attendance

You are expected to come to all classes and arrive on time.

Please let me know in advance if you will be out for any reason.

Please let me know if you miss class due to illness.

Computers are welcome in class but not required.

If you ever feel overwhelmed or need extra help, I will be available to you.
Syllabus

Texts

Required textbook

*Starting Out with Python, 3rd Edition*
Tony Gaddis
ISBN: 978-0-133-58273-4

Optional textbook

*How to Think Like a Computer Scientist: Learning with Python 3*
Peter Wentworth, Jeffrey Elkner, Allen B. Downey, and Chris Meyers (Available online)
Syllabus

Assignments

There will be nine assignments over the course of the semester.

Details of each assignment will be posted on the class website.

All assignments are to be submitted via NYU Classes.

Do your best to turn work in on time. 10% will be deducted for each class period after the deadline.

No assignments will be accepted after three classes or after the final exam.
### Syllabus

### Grading Rubric

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<table>
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For Next Class

Review class website

Read Chapter 1.1–1.3 of *Starting out with Python*

Install Python 3