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## CS 106: Introduction to Computing

Joshi Digant

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# CS 106-102: Roadmap to Computing for Engineers - 92131 - CS 106 - 102

## Syllabus

Roadmap to Computing for Engineers - 11889 - CS 106 - 102

### Instructor Info

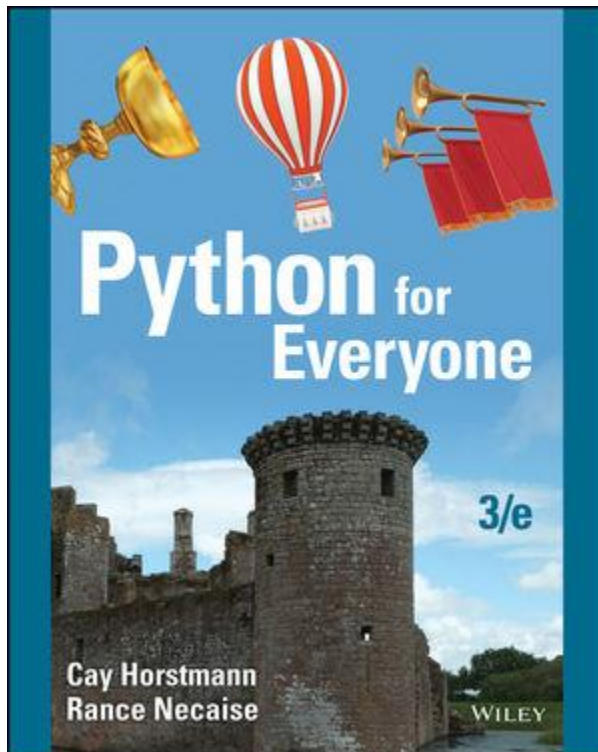
Instructor: Digant Joshi

Office Phone: djoshi@njit.edu

### Course Description

An introduction to programming and problem-solving skills for engineering majors using Python programming languages. Topics include basic strategies for problem solving, constructs that control the flow execution of a program and the use of high-level data types such as lists, strings, and dictionaries in problem representation. The course also presents an overview of selected "big idea" topics in computing.

### Textbook:



### Python For Everyone, 3rd Edition

[Cay S. Horstmann](#), [Rance D. Necaise](#)

ISBN: 978-1-119-49853-7

## Grading Scheme

Midterm	20%
Final	30%
Homework	15%
Quizzes	10%
Lab	15%
Attendance	5%
Miscellaneous	5%

## Topics

- Introduction
  - Computer Programs
  - The Python Programming Language
  - Becoming Familiar with Your Programming Environment
- Variables, expressions, & statements
  - Defining Variables
  - Basic Arithmetic Operations
  - PROBLEM SOLVING
  - Strings
  - Input and Output
- Decisions
  - The if Statement
  - Relational Operators
  - Analyzing Strings
- Loops
  - The while Loop
  - The for Loop
  - Nested Loops
  - Processing Strings
- Lists
  - Basic Properties of Lists
  - List Operations-, inserting, finding, removing and others
  - Tuples
- Functions
  - Implementing and Testing Functions
  - Parameter Passing
  - Functions With and Without Return Values
  - Variable Scope
- Sets and Dictionaries
- Files, input & output
  - Reading and Writing Text Files
  - Text Input and Output
- Introduction to Object-Oriented Programming
  - Built in Classes
  - User Defined Classes

## Attendance Policy

Attendance in every lecture is mandatory. If a student is absent from lecture five times (the first day counts), the student's name will be recommended for withdrawal to the Dean of Freshman Studies. Two lates is equivalent to one absence. Make sure that you fully understand this attendance policy.

## **Cheating Policy**

Cheating on a programming assignment results in zero credit for all students involved. Programming assignments may **NOT** be solved in collaboration, unless specifically stated in the assignment. Cheating on an exam will result in an "F" in the course.

You may discuss problems with each other. Where does discussion end and cheating start? You may **NOT** copy lines of code from anybody or anywhere. You may **NOT** use code in your assignments that you did not write. As a general rule: If you don't understand the code and can't explain the code, you can't use the code.

Please familiarize yourself with the NJIT Honor Code. Violations of the honor code will be dealt with seriously and reported immediately to the Dean of Students.

## **Statement on academic integrity:**

o “Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: <http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf>.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu”

## **Late Policy**

To receive full credit all programming assignments must be handed in on time. Assignments that are not submitted on time will be penalized for each day that they are late. The type and severity of the penalty will be determined by the assignment. In general, a deduction of 10 points (out of 100) for the first day, 20 additional points for the second day, 30 additional points for the third day, and 40 additional points for the fourth day late will be subtracted from the final grade of the assignment.