

# Introduction to Programming with Python

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## I. COURSE OUTLINE

- 1) Python as a calculator
- 2) Variables and data types
- 3) Sequence of instructions
- 4) Working with strings
- 5) Type casting
- 6) Relational operators
- 7) Logical operators
- 8) conditional statements
- 9) Nested conditional statements
- 10) While loops
- 11) For loops
- 12) String methods
- 13) Nested loops
- 14) Loop control methods
- 15) Lists
- 16) Tuples and Sets
- 17) Dictionaries
- 18) Functions

## II. REFERENCE BOOKS

- Lutz, Mark - Learning Python powerful object-oriented programming-O'Reilly (2013)
- John M. Zelle - Python Programming: An Introduction to Computer Science-Franklin, Beedle & Associates (2016)
- Eric Matthes - Python Crash Course: A Hands-On, Project-Based Introduction to Programming-No Starch Press (2015)

## III. ONLINE REFERENCES

- Intro to Python tutorial - <https://www.learnpython.org/>
- Scientific Computing with Python (300 hours) - <https://www.freecodecamp.org/learn/scientific-computing-with-python/>
- Data Analysis with Python (300 hours) - <https://www.freecodecamp.org/learn/data-analysis-with-python/>
- Machine Learning with Python (300 hours) - <https://www.freecodecamp.org/learn/machine-learning-with-python/>
- Python tutorial (5 hours) - <https://www.kaggle.com/learn/python>
- <https://www.w3schools.com/python/>