

# **Create a lesson plan for university students on python programming. Include an introduction, lesson outline, questioning, assessment, differentiation and plenary. Include links to some video and worksheet resources.**

---

## Introduction:

Before we get started, lets all take a few minutes to introduce ourselves, and discuss our experience with coding in general and Python in particular. By the end of the lesson, you should be able to create basic programs in Python, as well as understand why it is one of the rapidly growing programming languages.

## Lesson Outline:

1. Introduction (15 min): Overview of Python and its applications in business.

### Video link:

<https://www.youtube.com/watch?v=9X50IDmf0lg>

2. Basic Syntax and Variables (30 min): Learning common Python commands such as if/elif/else, and how to assign variables. Handout:

<https://www.digitalocean.com/community/tutorials/how-to-use-variables-in-python-3>

3. Functions (30 min): How functions are used in Python and how they are defined. Handout:

<https://www.digitalocean.com/community/tutorials/how-to-write-functions-in-python-3>

4. Control Flow (30 min): Decision making with statements such as 'for' and 'while'. Handout:

<https://www.digitalocean.com/community/tutorials/how-to-use-control-statements-in-python-3>

5. Debugging (30 min): How to debug Python programs. Videos link:

<https://www.youtube.com/watch?v=VTPxDXepRxs>

6. Wrap Up (15 min)

## Questioning:

- While presenting the material, be sure to ask students to explain what is happening and make sure that everyone is understanding the content.
- Ask guiding questions to support students when they need help troubleshooting.

### Assessment:

- At the end of the class, there will be a formative assessment to assess students' progress.
- This assessment will focus on the students' ability to write basic programs in Python.

### Differentiation:

- Provide a variety of supplementary activities and materials to ensure that all learners are given the opportunity to reach their full potential.
- Pair students of different ability levels to work together on some tasks to accommodate for any learning differences.

### Plenary:

By the end of the lesson, students should be able to demonstrate understanding of the fundamentals of Python programming and be able to produce basic programs in the language.

### Resources:

#### Video:

<https://www.youtube.com/watch?v=9X50IDmf0lg>

<https://www.youtube.com/watch?v=VTPxDXepRxs>

#### Handouts:

<https://www.digitalocean.com/community/tutorials/how-to-use-variables-in-python-3>

<https://www.digitalocean.com/community/tutorials/how-to-write-functions-in-python-3>

<https://www.digitalocean.com/community/tutorials/how-to-use-control-statements-in-python-3>