**Supercomputing Python Lesson Plan**

|  |  |
| --- | --- |
| **Pacing Guide** | **Learning Objectives** |
| **Getting Started - 5 Minutes**  Presenter Introduction | Students will:   * Learn the basics of Python   + Variables   + If/Else statements   + Printing   + Loops * Participate in the end-to-end creation of a Python project |
| **Activity - 40 Minutes**  Code-along Python presentation to Number Guesser Game |
| **Activity - 45 Minutes**  Hangman Project |
| **Activity - 40 Minutes**  Hangman Project cont. |
| **Wrap Up - 5 Minutes** | **Materials:**  Code Editor: <https://repl.it/languages/python3>  Presentation: <https://docs.google.com/presentation/d/1-wlE6j0uAlQI747_kmgDVcOMny8k34aF21v3aX6ZgUA/edit?usp=sharing> |

|  |  |
| --- | --- |
| **Target Age Demographic:** | High School |
| **Length In Hours:** | 2 hours 15 minutes |

The class would start at 10:30 and there would be a lunch break and then it would resume at 1:00 until 1:50. There will be breaks in between the first 45 minutes.

**1st Session - Presentation**

1. Open up <https://repl.it/languages/python3>. This is the editor that we’ll be using during this session to run Python.
2. Follow along to [this presentation](https://docs.google.com/presentation/d/1-wlE6j0uAlQI747_kmgDVcOMny8k34aF21v3aX6ZgUA/edit#slide=id.g8219ca7e52_0_52).
   1. The pattern of the slides is to introduce a topic and then open up repl.it to immediately implement that concept in Python. The code on the slides combine to create a number guessing game. The full code is [here](https://drive.google.com/file/d/1BzsxgBnwSx-uWuoDKKL1QmDmD4xraj43/view?usp=sharing).
   2. Note: if there is time at the end of the first session, I think it would be a good idea to have the students suggest what to make and try coding it on the spot, this could even take up part of the second session.

**2nd Session - Project Pt 1**

1. The goal with the remaining time is to create a Hangman game. The full code is [here](https://docs.google.com/document/d/1zQWr91oKJccB6FSqRVIgqgbggYHQYaGGrqmw9Gcj3KY/edit?usp=sharing).
2. The code can be expanded even more. We could have the students suggest ideas, here are some examples. This should stretch into the next session
   1. Update each turn with a character version of a hangman that adds more parts as the game goes on.
   2. Replace the single word with an array of words, and have the word get randomly chosen at the beginning of a turn.

**3rd Session - Project Pt 2**

1. Continue adding additional features to the Hangman Game