Public Policy in Africa Initiative (PPiAI)

Coding Course Term II 2023

Instructor:	Akshaan Garg
Email:	gargaksh@msu.edu
Class Days/Time:	Saturdays at 15:30 GMT
Classroom:	https://msu.zoom.us/j/99829093114

Teaching Assistants
TBD

Course Description
This course will be an Introduction to Programming course which will cover a basic introduction to the principles of programming, including algorithms and logic. Students engage in hands-on programming tasks in the Python programming language as they write and test their own code using the approaches professional programmers use in the field. Students will program with variables, data structures, functions and arguments, lists, loops, and classes providing a solid foundation for more advanced study as well as practical skills they can use immediately.

Course Goals
- Use software programs that are common in an IT workplace
- Learn and apply introductory programming skills to solve specific problems
- Write and test code

Upon successful completion of this course, each student will be able to:
- Read Python code and glean a basic understanding of what the purpose of the program is
- Write code in Python to solve specifically defined problems
- Test and debug Python code

Required Texts/Readings
- Python Notes for Professionals – can be downloaded for free from: https://books.goalkicker.com/PythonBook/PythonNotesForProfessionals.pdf
- Other readings as assigned

Other equipment / material requirements
Access to a computer with either the Windows, MacOS, or Linux operating system and admin privileges for installing software

Assignments and Grading Policy
Assignments will be given at the end of each lecture. You must complete assignments as assigned and turn them in (when applicable) via Email before the following lecture, otherwise it will be considered a failed assignment. We will provide feedback on the submissions and give a pass/fail grade on each assignment. If you fail the first attempt of the assignment, you will have an additional week to update the assignment as many times as needed in order to try to get a passing grade on the assignment. The final due date of revisions is before the second lecture after the assignment was initially assigned, i.e. two weeks.

Classroom Protocol
You are expected to join our lectures promptly at the agreed upon start time (see above) every Saturday. Please ensure you are muted when you join so as not to disrupt the lectures, especially if you are running late. If you have questions or comments you'd like to share with the class, please post them to the chat and I will do my best to address them in turn, time permitting.

Certificate of Completion
A Certificate of Completion will be issued at the end of the course to each student that meets all of the following criteria:

- Attends at least 80% of lectures
  - If you are unable to attend a lecture in person, you may view the lecture recording on YouTube after the fact. In order for this to count in lieu of attendance, you must post a comment to the YouTube recording **within 1 week of the original lecture time** stating:
    - 3 things you learned from the lecture
    - 2 questions you had on the contents of the lecture
- Receives a passing grade on 80% of assignments
- Actively works on a final project and completes a Final Project Presentation at the end of the course. Details of the final project and timelines are still in the works.
  - Can either be live during one of the two final presentation sessions at the end of the course OR recorded (w/ audio) and submitted

PPiAI Coding Class Term 1 2022 Course Schedule

Table 1 Course Schedule

Week	Date	Topics, Readings, Assignments, Due Dates, Deadlines
1	July 2, 2023	Course and peer introductions, software installation Optional Readings: Chapter 1
2	July 9, 2023	Data Types, Variables, and Operators in Python. Readings: Chapters 1.1-1.4, 2, 9, and 15 Assignment 1 Due
3	July 16, 2023	Conditionals and Data Structures Part I Readings: Chapters 7, 8, 14 Assignment 2 Due
4	July 23, 2023	Data Structures Part II Readings: Chapters 17, 18, and 19 Assignment 3 Due
5	July 30, 2023	Data Structures Part III Readings: Chapters 20, 21, 22, 24, 25, and 28 Assignment 4 Due
6	August 6, 2023	Loops, Iterables, and Iterators Readings: Chapters 16 and 32 Assignment 5 Due
7	August 13, 2023	Input and Output (I/O), Files and Folders Readings: Chapters 29 and 30 Assignment 6 Due
8	August 20, 2023	Functions Readings: Chapters 33, 34, 36, and 42 Assignment 7 Due
9	August 27, 2023	Classes and Error Handling Readings: Chapters 38, 88, 89, and 90 Assignment 8 Due
10	September 3, 2023	Modules and Packages Readings: Chapters 43, 44, and 45 Assignment 9 Due

11	September 10, 2023	Unit Testing Readings: Chapters 192 and 293 Assignment 10 Due
12	September 17, 2023	Assignment 11 Due Final Project introduction
	TBD	Final Project Presentations