Intermediate Python for Adults (03068AGC)

Course Overview

Welcome to Intermediate Python! This 8-week course builds on basic Python knowledge and introduces you to more advanced concepts used by professional developers.

Course Details

- **Length**: 8 weeks with one 1.5-hour class per week
- **Prerequisites**: Basic Python knowledge (variables, loops, functions, simple data structures)
- **Assessment**: Weekly quizzes (15%), weekly homework assignments (45%), final project (40%)

Course Materials

All course materials, including:

- Code examples discussed in class
- Weekly homework assignments
- Additional resources

Are available in our course GitHub repository:

https://github.com/majavedg123/Intermediate-Python-for-Adults-03068AGC

You'll need to:

1. Create a GitHub account if you don't have one
2. Clone or download the repository after the first class

Weekly Topics and Homework

Week 1: Python Foundations Review & List Operations

- Review Python basics (variables, loops, conditionals)
- Deep dive into list operations
- Master list comprehensions
- **Homework**: Complete the Week 1 homework assignment found in the GitHub repository

Week 2: Dictionaries, Functions and Modules

- Learn dictionary operations and methods
- Dictionary comprehensions
- Explore advanced function features
- Use and create modules
- **Quiz**: Basic concepts (15-20 minutes)
- **Homework**: Complete the Week 2 homework assignment found in the GitHub repository

Week 3: Error Handling & Object-Oriented Programming Basics

- Master error handling techniques (try/except)
- Learn core OOP concepts
- Create and use classes
- **Quiz**: Functions and dictionaries (15-20 minutes)
- **Homework**: Complete the Week 3 homework assignment found in the GitHub repository

Week 4: Inheritance and File Operations

- Practice inheritance in OOP
- Work with different file types
- Learn file reading and writing techniques
- **Quiz**: OOP basics and error handling (15-20 minutes)
- **Homework**: Complete the Week 4 homework assignment found in the GitHub repository

Week 5: Data Processing Techniques

- Process data efficiently
- Parse and manipulate text data
- Regular expressions
- **Quiz**: Inheritance and file operations (15-20 minutes)
- **Homework**: Complete the Week 5 homework assignment found in the GitHub repository

Week 6: Standard Library & Advanced Data Structures

- Explore useful Python standard library modules
- Work with complex data structures
- Learn common algorithms
- **Quiz**: Data processing (15-20 minutes)
- **Homework**: Complete the Week 6 homework assignment found in the GitHub repository

Week 7: Web Interaction and APIs

- Connect with web services
- Use APIs to get and process data
- Work with web data
- **Quiz**: Standard library and data structures (15-20 minutes)
- **Homework**: Complete the Week 7 homework assignment found in the GitHub repository

Week 8: Final Project Development and Presentation

- Apply concepts learned throughout the course
- Develop and present your final project
- Code review and feedback session
- **Final Project**: Design and implement a Python application that demonstrates the techniques learned in the course

Assessment Weightage

- **Weekly Quizzes**: 15% (2.5% each for 6 quizzes)
- **Weekly Homework**: 45% (6.5% each for 7 assignments)
- **Final Project**: 40%

Homework Submission

- Homework assignments should be submitted via email to the instructor
- Submit your Python files as attachments
- Use the subject line format: "Python Course - Week X Homework - Your Name"
- Due dates: All assignments are due by midnight the day before the next class

What You'll Need

- Laptop with Python 3.8 or newer
- GitHub account (for accessing course materials)
- Git installed on your computer (optional - you can also download materials directly)
- No textbook required (all materials provided in the repository)

Expectations

- Complete homework before each class
- Participate in discussions and exercises
- Collaborate with classmates
- Ask questions
- Attend all classes when possible
- Regularly check the GitHub repository for updates