

Python for Economics Graduate Students

Syllabus

Fall 2024

Class Coordinates

- ILCB 112 ([map](#))
- August 12-14
- Class times
 - 8:30 am - 4:30 pm August 12-13
 - includes helpdesk
 - includes a lunch break
 - 9:30 am - 2:30 pm August 14
 - includes helpdesk
 - includes a lunch break
- Helpdesk
 - First 30 minutes, our focus will be assisting you in gaining entry to the online course. Please arrive on time to prevent delays.
 - Last 30 minutes, we will remain to answer questions.

Teaching Structure

- Taught in-person
- Learning support available in the room from multiple teaching assistants
- Students will learn and practice coding throughout the day
- 10 minute breaks every hour
- 1 hour lunch break every day
- Participation is measured; certificate of participation available
- Additional optional activities available throughout the course

Requirements

- Students will bring laptops or keyboard equipped personal computing devices to the class
- Students use their TAMU NetID to access to the class materials
- Web Browser (Chrome, Firefox) used to participate in activities

Web Resources

- Course resources will be made available on the HPRC website
- Materials will be distributed via a Google Classroom
- Computing activities are performed using Google Colaboratory web app
- Students will have the opportunity to access the Texas A&M Launch cluster, also in web browser

- Microcredentials are available for further learning in Python and Data Science

Learning outcomes

- Orientation and Introduction
 - Motivate the use of Python for Economics
 - Gain familiarity with Jupyter IDE via Google Colab
 - Understand general programming concepts
 - Know what Python is, where it comes from
- Programming skills
 - Core Concepts: Variables, Operators, Functions
 - Data Types: Numbers, Text, Booleans
 - Style: Indentation, Multiline statements, Comments
 - Control Structure: Loops
 - Data Structures: Tuples, Lists, Dictionaries, Arrays, Dataframes
 - Object-oriented programming: Slices, Methods, Modules
 - Libraries: NumPy, Matplotlib, Pandas, Requests
- Data Skills
 - Data Visualization: Line plot, Scatter plot, Linear Regression
 - Data Handling: Filtering, Sorting, Labeling, Array Operations
 - APIs: HTTP, JSON, [FRED](#)
- Individual Research Project
 - Begin and/or Complete a student-led Data Science project
 - Required for Certificate of Participation

Instructors:

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Schedule (overview)

Monday, August 12, 2023	
8:30am - 9:00am	Preparations, Tech Support
9:00am - 12:00pm	Introduction to Python, Elements of Code
12:00pm - 1:00pm	Lunch
1:00pm - 4:00pm	Control Structures, Data Structures

4:00pm - 4:30pm	Helpdesk
Tuesday, August 13, 2023	
8:30am - 9:00am	Preparations, Tech Support
9:00am - 12:00pm	Data Libraries (NumPy, Matplotlib, Pandas)
12:00pm - 1:00pm	Lunch
1:00pm - 4:00pm	Data Libraries (continued), APIs
4:00pm - 4:30pm	Helpdesk
Wednesday, August 14, 2023	
9:30am - 10:00am	Preparations, Tech Support
10:00am - 12:00pm	Individual Research Project
12:00pm - 1:00pm	Lunch
1:00pm - 2:00pm	Introduction to Launch cluster
2:00pm - 2:30pm	Helpdesk