
05177011 DATA SCIENCE PROGRAMMING & TOOLS

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I. TEXT AND COURSE MATERIALS

- **Textbook:**
Python for Everybody: Exploring Data In Python 3 by Charles Severance. <https://www.py4e.com/book>,
Python Programming for Data Science, by T. Beuzen (2021) <https://www.tomasbeuzen.com/python-programming-for-data-science/>

II. COURSE DESCRIPTION

Python Programming basics. Approaches for building pipelines in data analytics using Python; data cleaning, extraction, wrangling, API's, web scraping. Building data products.

III. COURSE OUTLINE

This schedule is tentative and could be changed depending on actual progress during the semester. Changes will be announced in the class. Students are responsible for updating their syllabus.

| Week | Topics |
|------|--|
| 1 | <ul style="list-style-type: none">• Python Basics |
| 2 | <ul style="list-style-type: none">• Python Basics |
| 3 | <ul style="list-style-type: none">• Python Basics |
| 4 | <ul style="list-style-type: none">• Python Basics |
| 5 | <ul style="list-style-type: none">• Python Basics |
| 6 | <ul style="list-style-type: none">• Python Basics |
| 7 | <ul style="list-style-type: none">• Data Wrangling |
| 8 | <ul style="list-style-type: none">• Data Wrangling |
| 9 | <ul style="list-style-type: none">• Data Wrangling |
| 10 | <ul style="list-style-type: none">• Web APIs |
| 11 | <ul style="list-style-type: none">• Web Scraping |
| 12 | <ul style="list-style-type: none">• Web Scraping |
| 13 | <ul style="list-style-type: none">• Data Visualization |
| 14 | <ul style="list-style-type: none">• Data Visualization |
| 15 | <ul style="list-style-type: none">• Project Presentation |

IV. GRADING

- Attendance 20%
- Assignment 20%
- Group Project 20%
- Midterm Examination 20%
- Final Examination 20%