

DATA 302

Special Topics I: Python

Course Details

Instructor: Sergey Lapin

IMPORTANT: Visit the course ["More Information"](#) page to review details about textbooks, course materials, media, proctor requirements, and any fees associated with this course.

There is no required textbook to be purchased for this course, as we will be making use of open source and online materials all semester. The following textbooks below are available as free .pdfs and will be referenced during lectures and assignments. You may find the texts on the remainder of the list to be useful additional supplementary resources but access to them will not be required. Data sets and programming scripts for the course will be uploaded to the course webpage.

Open-source resources:

- [Problem Solving with Python](#)Links to an external site.
- [Automate the boring stuff](#)Links to an external site.
- [Python Data Science Handbook](#)Links to an external site.
- [Think Python](#)Links to an external site.
- [A Bite of Python](#)Links to an external site.
- [Dive into Python 3](#)Links to an external site.

Course Overview

This course provides an introduction to the programming in python with a goal of supporting you in later coursework in the Data Analytics major. A main goal of the course is that you will have plenty of opportunities to work with real data and the Python programming language. Thus, we will integrate standard introductory topics in programming with examples that incorporate a variety of datasets.

Course Materials

This course provides training and examples using the Python programming language. Python is an open source language with a robust ecosystem of packages for data analytics that has become the predominant programming environment in data science^[1] **No previous programming experience or knowledge of statistical software tools will be assumed. We will start with the basics of Python 3 and build up familiarity with standard data science libraries including numpy and pandas.**

[1] In 2018, Kaggle surveyed 23,859 data scientists and found that 83% of them used python on a regular basis and 54% of them used python most frequently among all languages: [link.Links to an external site.](#)

Student Learning Outcomes (SLOs)

Students who successfully complete the course will be able to:

- Create and understand simple Python programs
 - Create functions and use standard flow-control procedures in Python
 - Demonstrate familiarity with Python's pre-built data types and packages
 - Load and summarize data in Python
 - Perform basic data cleaning operations in Python
 - Merge, transform, and aggregate datasets in Python
 - Create simple visualizations in Python
 - Solve simple problems using program design in Python
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Course Work

This course is intended to be self-paced and you are expected to work through all of the provided examples and materials. Each week there will be several suggested readings that go along with the material. Several of the textbook sections conclude with review questions, and while you are not required to submit answers to these, they can serve as an invaluable source of feedback on your progress and learning.

Collaboration Policy

For the assignments you are encouraged to work with other students in the class. However, the work that you submit should be your own and in particular should be written in your own words and communicate your own understanding of the solution. If you do collaborate, please list the names of the other students you worked with on your submission. Obtaining solutions from external sources like chegg or coursehero for course problems will be considered a violation of the academic integrity policy with consequences described below.

Expectations for Student Effort

Students should expect to spend a minimum of 9 hours per week, engaged in the following types of activities: reading, listening to/viewing media, discussion, or conversation in the LMS or other academic technology, conducting research, completing assignments and reviewing instructor feedback, studying for and completing assessments, etc

Assignments

Weekly Assignments: Each course module includes a set of questions for you to answer, providing some additional practice with the material. These problem sets are due weekly, and should be submitted in the form of a Jupyter notebook, with text responses formatted in markdown cells. The questions will be a mixture of short answer questions designed to help you review the new concepts and programming questions that will require you to modify existing scripts or write your own code.

Grading

Grading Schema			
Grade	Percent	Grade	Percent
A	92 - 100	C	71 - 76.9
A-	89 - 91.9	C-	68 - 70.9
B+	86 - 88.9	D+	64 - 67.9
B	83 - 85.9	D	60 - 63.9
B-	80 - 82.9	F	0 - 59.9
C+	77 - 79.9		

Instructor Interaction

We will use the [Ask the Instructor discussion forum](#) for course-related questions. This is a great place to ask questions from your peers, as well as to get feedback on your ideas. Announcements and other official communications will be posted on Canvas as well as sent to your official WSU email accounts. You should check these messages regularly to stay informed about upcoming due dates and updates to the syllabus.

Please reserve email for more personal inquiries (e.g., grades, etc.). Please include the name of the course in the subject line for any messages concerning the course. I will commit to responding within 48 hours but this does mean that queries sent immediately before a deadline may not receive substantive responses in time to be directly helpful, so please plan ahead.

Late Work Policy

The instructor has the latest information about a late work policy.

Incomplete Grade Policy (Academic Rule 90h)

Incompletes are granted only with permission of the instructor and are subject to the following guidelines:

1. Students must request an incomplete in writing or by e-mail from the instructor before the end of the semester.
2. The request must be signed and dated by the student (or identified by student's e-mail address) and must explain the reasons behind the request for the incomplete.
3. In order to be considered for an incomplete, there are two main conditions:
 1. A student must complete a minimum of 75 percent of the assigned course work.
 2. A student must have a mathematical possibility of scoring a 60 percent or above for the entire course.
4. If extraordinary circumstances (e.g., family emergency, serious illness) are involved and are documented to the instructor's satisfaction, the professor/ instructor retains the discretion to grant an incomplete even if the minimum conditions outlined in item 3 above are not met.

If an incomplete is granted, the standard WSU policy applies (i.e., ALL work must be completed within one full year from the end of the enrollment semester at issue, unless a shorter time is specified by the instructor. Otherwise, an automatic grade of "F," or failing, will be entered on the student's transcript).

Credit Hour Equivalent

Academic credit is a measure of the total minimum time commitment required of a typical student in a specific course. For the WSU semester system, one semester credit is assigned for a minimum of 45 hours of student effort. See Academic regulation 27.

For a 15-week course, students should expect to spend a minimum of 9 hours per week for each online 3-credit course engaged in activities including, but not limited to: reading, listening to/viewing media, completing assignments and reviewing instructor feedback, contributing to discussions, conducting research, studying for and completing assessments, etc.

For a 7-week course, students should expect to spend a minimum of 19 hours per week for each online 3-credit course engaged in the activities as listed above.

For Graduate Students

The Graduate Student Rights and Responsibilities describes procedures for channeling graduate student complaints, grievances, and concerns to faculty, staff and administrators for appropriate action. In conjunction with this document, graduate students must adhere to the Graduate School's Policies and Procedures. While these rights and responsibilities outline the complaint process, students are encouraged to use the Graduate School Deans for guidance and advice on conflicts that may arise at any point during their course of study at the University.

Academic Integrity

Academic integrity is the cornerstone of higher education. As such, all members of the university community share responsibility for maintaining and promoting the principles of integrity in all activities, including academic integrity and honest scholarship. Academic integrity will be strongly enforced in this course. Violation of WSU's Academic Integrity Policy (identified in Washington Administrative Code (WAC) 504-26-010(3) and -404) may result in penalties up to and including failing the assignment, exam, quiz, course requirement, or the course itself and students will not have the option to withdraw from the course pending an appeal, and will be reported to the Office of Community Standards.

Cheating includes, but is not limited to, plagiarism and unauthorized collaboration as defined in the Standards of Conduct for Students, WAC 504-26-010(3). You need to read and understand all of the definitions of cheating (<https://app.leg.wa.gov/WAC/default.aspx?cite=504-26-010>[Links to an external site.](#)). If you have any questions about what is and is not allowed in this course, you should ask course instructors before proceeding.

Undergraduate only: If you wish to appeal a faculty member's decision relating to academic integrity, please use the form available at [communitystandards.wsu.edu/Links to an external site.](http://communitystandards.wsu.edu/Links%20to%20an%20external%20site)

Copyright

Any course-related materials, presentations, lectures, etc. are the instructor's intellectual property and may be protected by copyright. The use of University electronic resources for commercial purposes, including advertising to other students to buy notes, is a violation of WSU's computer abuses and theft policy (WAC 504-26-218). Selling class notes through commercial note taking services without written advance permission from the faculty, could be viewed as be as copyright infringement and/or academic integrity violation, WAC 504-26-010 (3)(a,b,c,i).

Academic Regulations

Students enrolled in online courses are subject to the same University academic regulations as on-campus students. For the most accurate and up to date information go to [Academic Regulations](#)Links to an external site.