RUTGERS–CAMDEN
School of Business

School of Business

INTRODUCTION TO PYTHON
Course: 53:620:561:90
Term: FALL 2024

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Office: Virtual
Office Hours: TBD

COURSE SPECIFICS

Key Fall 2024 Dates:

Fall 2024 classes begin	Tuesday, September 3rd
Last day to withdraw with a "W"	Monday, November 11th
Last day of classes	Wednesday, December 11th
Final Exam period	Monday, December 16th - Saturday, December 21st

Course Description (1 Credit)

This course offers a introduction to Python programming, with touch on its powerful libraries, NumPy and Pandas. You'll start by learning the basics of Python, including variables, loops, and functions, before moving on to more advanced topics like data manipulation and analysis. Through hands-on examples, you'll explore how NumPy can be used for numerical computing and how Pandas simplifies working with data structures like Series and DataFrames. Additionally, we'll bake in AI tools to help you verify coding structures, ensuring you develop clean, efficient code. By the end of the course, you'll have the skills to efficiently handle and analyze data, making you well-equipped for roles in data science and related fields.

Course Learning Goals and Objectives

After completing this course, students should be able to:

1. Get Comfortable with Python Basics: By the end of this course, students will be able to write simple Python programs using basic concepts like variables, loops, and functions.

2. Learn to Work with NumPy for Basic Calculations: Students will understand how to create and use arrays with NumPy, performing basic mathematical operations on data.

3. Start Exploring Data with Pandas: Students will be able to use Pandas to organize and explore data in tables (DataFrames), learning how to clean and analyze simple datasets.

4. Use AI Tools to Check Your Code: Students will learn how to use AI tools to check their Python code for errors and improvements, helping them write cleaner and more efficient programs.

RSBC Program Learning Goals for Introduction to Python:

Learning Goal: Critical Thinking and Analytical Decision Making
Students will be able to critically interpret and synthesize information and data to solve business problems.

Learning Goal: Technology Fluency and IT Literacy
Students will demonstrate conceptual knowledge and practical application of information technology.

COURSE MATERIAL

Required Textbook:

Severance, C. R. (2024). *Python for everybody (PDF): Exploring data using Python 3* (Updated ed.). Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License. http://creativecommons.org/licenses/by-nc-sa/3.0/

Code Editor and IDE for Free (Windows and MAC)

1. Python.org Download:

Python Software Foundation. (n.d.). Python releases for Windows. Python.org. Retrieved [insert retrieval date here], from https://www.python.org/downloads/

2. JetBrains PyCharm Community Edition Download:

JetBrains. (n.d.). PyCharm: The Python IDE for professional developers. JetBrains. Retrieved [insert retrieval date here], from https://www.jetbrains.com/pycharm/download/

COMMUNICATION

Rutgers Email:

All class communication will be via your Rutgers e-mail, discussion forums, and other tools in Canvas. You are expected to check your Rutgers e-mail at least two or three times throughout each week. All course announcements can also be accessed via the "Announcement" page in Canvas. Not checking Canvas or your Rutgers email is not an excuse for missing any communications.

Canvas:

Posted will be the syllabus, resources (articles and examples), Power Point slides, announcements, guides, etc. To access this system, go to http://canvas.rutgers.edu log in, and click on the course in the dashboard.

Class Materials:

New materials posted by 12pm every Tuesday. Students are advised to access Canvas multiple times a week, as each module (except during exam weeks) runs from **Tuesday (Day 1) to the following Monday (Day 7).** All course materials on Canvas, including slides, handouts, and assignments, are the intellectual property of the professor and for personal use only. Distributing, selling, or buying these materials without the professor's written permission is considered academic misconduct.

Class Communication:

Since class attendance is not compulsory, reliable communication is essential. We will use the thread "Need Help?" discussion forum for all course-related questions. Rather than emailing me directly with inquiries about requirements, due dates, grading policies, etc., I encourage you to post your questions on the forum. Please review the syllabus carefully before posting to ensure your question isn't already answered there. If it's not covered, post your question on the forum so that other students or I can answer it for everyone's benefit.

While I will respond to your course-related questions, I may not be equipped to address technical Canvas-related inquiries. If you encounter a technical issue that requires immediate attention, please contact one of the 24/7 technical support resources available. Access these resources via the "Help" button on the bottom left panel of your screen. This provides options to speak with a live Canvas agent or a staff member of the Rutgers Help Desk. Alternatively, you can directly reach them through **OIT:** https://it.rutgers.edu/help-support

Professor Communication:

When emailing me, please include your full name and the course number. Response times to your emails are as follows:

- Monday-Friday during the semester: within 24 hours, often sooner between 9 am and 5 pm.
- Emails received after 5 pm may not be addressed until the next business day.
- Weekends during the semester: within 48 hours or by Monday.

If you do not receive a response within the specified time frame, kindly resend your email. I strive to adhere to these response times and appreciate your cooperation in doing so as well. Please understand my need to balance responsiveness with other commitments and be respectful of my availability. For personal matters regarding grades, accommodations, or specific feedback, please contact me directly at my Rutgers email: bryon.singh@rutgers.edu.

GENERAL/ADMINISTRATIVE

Pronouns:

This course affirms people of all gender expressions and gender identities. Feel free to correct me on your preferred gender pronoun. If you have any questions or concerns, please do not hesitate to contact me.

POLICY STATEMENT

Disability Services/Accommodations

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact https://success.camden.rutgers.edu/disability-services.

Accommodation will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

Academic Integrity

The Academic Integrity policy can be found at http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the

appropriate authorities.

Academic Integrity means that you (the student) must:

- Properly acknowledge and cite all use of the ideas, results, or words of others,
- Properly acknowledge all contributors to a given piece of work,
- Make sure that all work submitted as your own in a course activity is your own and not from someone else.
- Obtain all data or results by ethical means and report them accurately.
- Treat all other students fairly with no encouragement of academic dishonesty Adherence to these principles is necessary in order to ensure that:
- Everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- All student work is fairly evaluated and no student has an inappropriate advantage over others
- The academic and ethical development of all students is fostered.
- The reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld. Violations are taken seriously and will be handled according to university policy.

Artificial Intelligence Use: Acceptable and Unacceptable Use of AI

The use of generative AI tools (e.g. ChatGPT, Dall-e, etc.) is permitted in this course for the following activities:

- Brainstorming and refining your ideas, including getting suggestions from ChatGPT to explore different angles.
- Fine-tuning your research questions with the help of ChatGPT for clarity and focus.
- Finding information on your topic and using ChatGPT to help uncover additional resources or perspectives.
- Drafting an outline to organize your thoughts with ChatGPT offering structural advice and suggestions.
- Checking grammar and style using ChatGPT to review and suggest improvements to your writing.

The use of generative AI tools is not permitted in this course for the following activities:

- Impersonating you in classroom contexts, such as by using the tool to compose discussion board prompts assigned to you or content that you put into a Zoom chat.

- Completing group work that your group has assigned to you, unless it is mutually agreed upon that you may utilize the tool.
- Writing a draft of a writing assignment.
- Writing entire sentences, paragraphs or papers to complete class assignments.
- Completing quizzes and exams, unless otherwise stated by the instructor.

You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contains misinformation or unethical content). **Your use of AI tools must be properly documented and cited in order to stay within university policies on academic honesty.** Any assignment that is found to have used generative AI tools in unauthorized ways based on guidelines in this syllabus, will be subject to report of a violation of Academic Integrity and thus the appropriate adjudication. When in doubt about permitted usage, please ask for clarification.

Code of Student Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space.

As a student at the University, you are expected to adhere to the Code of Student Conduct. To review the code, go to the Office of Community Standards: https://deanofstudents.camden.rutgers.edu/student-conduct

CLASSROOM POLICIES

Exam Make-up Policy/Late Policy

Make-up Work and Late Work Policies: Should you need to miss a quiz, assignment, or exam due to a university approved reason, please provide written notice via email (bryon.singh@rutgers.edu) at least one week in advance to arrange make-up work. In unforeseen emergencies, contact me as soon as possible afterward with written documentation; however, make-up work for non-university approved reasons is not assured. As for late submissions, all work must be completed and uploaded to Canvas by the specified due date unless an exception is documented and verified under the Make-up Work Policy. Late submissions will incur a penalty at the professors discretion for each day past the due date.

Assessments

Class Participation: It is expected that you will (1) regularly log into Canvas and spend adequate time engaging with course materials as your activity will be monitored, (2)

attentively review and interact with the online content, and (3) actively contribute to online discussions and forums. Your contributions should be thoughtful and reflect a careful review of all assigned materials, demonstrating your understanding and engagement. Additionally, all assignments should be completed and submitted on time as per the specified schedule.

Test/Quizzes: Students are expected to adhere strictly to the scheduled timeframes and maintain academic integrity by not consulting unauthorized resources or collaborating with others. Ensure a stable internet connection and suitable environment for uninterrupted completion. Any technical issues should be reported immediately. Late submissions or breaches of academic honesty will result in appropriate penalties as per course policy.

Discussion Board Activity

There will be at least seven specific discussion board activities in this course. This may change based on the professor's discretion.

Discussions may involve any combination of prepared materials, journal articles, textbook readings, mini-cases, problems, videos, or other resources. During the week of discussion activity, students are expected to create at least one Discussion Thread by Day 4 (Thursday) of each week that a discussion topic is assigned and then by Day 7 (Sunday) have responded to at least one other posted thread by other students in the class. All postings including responses are to be substantive and further the discussion of the topic of interest.

Postings on the discussion board must reflect student's reading and comprehension of the assigned readings and/or related discussion activity. Discussion postings must reflect the ability to synthesize concepts presented through writing at a college level. The minimum length of a post is 100 words not including references listed. A typical rubric for evaluating discussion board activity will be provided. In addition to these specific assigned discussions, there will be also be a general class forum for discussing issues related to the class, but these will not be graded.

Participation and Discussions	25%
Quizzes*	15%
Weekly Assignments	15%
Mid-Course Project Exam	20%
Final Project Exam	25%

Grade Ranges Letter Grade Description	
A Highest grade (90% and above)	**C+** Average work (74.5% to 79.4%)
B+ Work of distinction (84.5% to 89.4%)	**C** Average work (69.5% to 74.4%)
B Work of distinction (79.5% to 84.4%)	**F** Failure without credit (Below 60%)

GRADING

*Lowest grade is dropped

COURSE OUTLINE

Week	**Canvas Module(s)**	**Module Start** (Day 1)	**Module End** (Day 7)	**Topics**
Week 1	Getting Started & Module 1	9/3	9/9	**Python Basics and Environment Setup**
Week 2	Module 2	9/10	9/16	**Control Flow and Looping**
Week 3	Module 3	9/17	9/23	**Functions and Modules**
Week 4	Module 4	9/24	9/30	**Data Structures**
Week 5	Module 5	10/1	10/7	**Files, Errors, and NumPy Basics**
Week 6	Module 6	10/8	10/14	**Pandas and Data Manipulation**
Week 7	Module 7	10/15	10/20	**Final Project and Review**