Programming for Brain and Behavior

Last Updated: Fri, 08/01/2025

Course prefix: PSYC

Course number: 3803

Section: C

CRN (you may add up to five):
34628

Instructor First Name: Eunbee

Instructor Last Name: Kim

Semester: Spring

Academic year: 2025

Course description:

This course introduces students to programming in Python and R, emphasizing their applications in data science, statistical analysis, and machine learning. Students will gain practical experience through hands-on coding, real-world projects, and comparative analysis of the two languages.

Course learning outcomes:

By the end of this course, students will be able to:

- Understand and apply core programming concepts in both Python and R.
- Perform data manipulation and analysis using appropriate libraries in each language.
- Visualize data effectively using Python and R.
- Apply statistical models and machine learning algorithms in Python and R.
- Select the appropriate language for specific data analysis tasks.

Required course materials:

Prerequisites and/or Co-Requisites

A basic understanding of Linear Algebra. No programming experience is required for this class (in fact, it is best if you have none). This course is not recommended for students who have credit for CS 1371 or higher.

- No prior programming experience required.
- Basic understanding of statistics is recommended.

Textbook and Other Materials

- Online resources (tutorials, documentation) for Python and R
    - [main textbook] Spciy-Lectures-textbook.pdf
    - https://lectures.scientific-python.org/ (free)Links to an external site.
    - http://openbookproject.net/thinkcs/python/english3e/index.htmlLinks to an external site. (free)
- *[Optional] Python for Data Analysis* by Wes McKinney ($10-44)
- *[Optional] R for Data Science* by Hadley Wickham and Garrett Grolemund ($12-50)

Grading policy:

Assessment of Learning

Lecture Attendance

100 points (14.3%)

In-Class Activity & Quizzes

100 points (14.3%)

Assignments/Homework

100 points (14.3%)

Ed Discussion

100 points (14.3%)

Midterm / Project Report

100 points (14.3%)

Final / Project Presentation

200 points (28.6%)

Total Points

700 points (100.1%)

For each section, the earned points will be proportionally converted based on the rubric's weighting. For instance, if you earn 95 out of 100 possible scores for the final project presentation, this score will be scaled to 190 out of 200 points according to the rubric.

Attendance policy:

LECTURE ATTENDANCE: From past experience teaching various courses, we have found a strong statistical relationship between class attendance and overall course performance. To that end, attendance will be counted as a small part of the course grade to help students perform better overall.

Beginning on the second week of class, attendance will be taken at all lecture sessions. To receive points, students are expected to arrive on time and stay for the entire class period. Arriving more than five minutes late, leaving class early, or acting in a disruptive manner during class will forfeit the points. Students must attend the lecture for which they are officially registered to earn attendance points.

This attendance policy is designed to promote class participation; therefore, no makeups will be permitted under any circumstances, and no absences will be classified as "excused" without documentations. However, to accommodate valid reasons for missing class, **students can still earn full attendance points even with up to two absences without documentation**.

Attendance will be strictly monitored, and points for a session will be annulled for the entire class if the number of respondents exceeds the total number of students present on that day, so please do not have another student sign in for you, and do not sign in for another student.

Class disruptions of ANY kind will NOT be tolerated and may result in your removal from the classroom and/or loss of participation points for that day. Please show courtesy to your fellow classmates and instructor or teaching assistant by adhering to the following class rules:

• Come to class on time and stay for the entire class period.

• Refrain from conversing with your fellow students.

• Put away any reading materials, cellular phones, and other electronic devices unrelated to the course.

Academic honesty/integrity statement:

All work for this class is to be done individually. You are strongly urged to familiarize yourselves with the **GT Student Honor CodeLinks to an external site.** rules. Specifically, the following is not allowed:

- Copying, with or without modification, someone else's work when this work is not meant to be publicly accessible *(e.g., a classmate's program or solution).*
- Submission of material that is wholly or substantially identical to that created or published by another person or persons, without adequate credit notations indicating authorship *(plagiarism).*
- Putting your projects on public Github. Otherwise, if a student *(in the future)* copies your codes/projects, the student obviously violates the honor code but you will also be implicated.

Academic Integrity

Students are expected to uphold the highest standards of academic integrity. Any form of cheating, plagiarism, or dishonesty will not be tolerated and may result in disciplinary action.

Zero Tolerance Policy on Cheating and AI Assistance (e.g., Chat GPT, Gemini)

We maintain a strict zero-tolerance policy regarding academic dishonesty, including the use of ChatGPT and other AI tools. Any student found using AI to complete assignments/quizzes/exams will be reported immediately, receive a grade of zero for the submission, and risk a final grade of F.

Disability Accommodations

If you require any accommodation due to a disability, please inform the instructor at the beginning of the course to ensure that appropriate arrangements can be made.