Data Science for Public Policy

Last Updated: Tue, 01/06/2026

Course prefix: PUBP

Course number: 3042

Section: OA

CRN (you may add up to five):
32836

Instructor First Name: Omar Isaac

Instructor Last Name: Asensio

Semester: Spring

Academic year: 2026

Course description:

PUBP 3042 Data Science for Public Policy. 3 Credit Hours. This course introduces fundamentals of data science, tools, and quantitative methodologies and ethical implications for public and social applications. Topics for policy applications vary by semester.

Course learning outcomes:

Upon successful completion of this course, you should be able to:

- Identify social and administrative data sources to address policy issues;
- Distinguish between research designs for prediction and causal inference;
- Collect, pre-process, and analyze data programatically;
- Gain experience in presenting and defending data-driven evidence;
- Consider ethical issues related to the protection of human subjects and responsible data use in organizations;
- Evaluate how decisions impact the sustainability of communities.

Required course materials:

- **Required Course Textbook:** Kosuke Imai, Quantitative Social Science: An Introduction. Princeton University Press. Online resources and datasets associated with the textbook are available online. The course textbook website is here: http://qss.princeton.press
- **Course website:** All relevant course materials, readings, discussions and announcements will be uploaded and available on Canvas. Be sure to turn on your

Canvas notification preferences to receive electronic updates to your phone or by email. If you encounter any technical issues with Canvas, you may get help from the Canvas support hotline at (877) 259-8498 or via email support@instructure.com. You can also simply click the “Help” button within canvas to reach support or visit the Canvas support team here: https://canvas.gatech.edu

- **Library Support and Resources:** To assist with your projects, we will hold class sessions on library resources including R and Python bootcamps in partnership with the Georgia Tech library. Participation in all library sessions will be required. My personal desk copy of course textbook will also be available on reserve at the library or upon request.

Grading policy:

Your final grade will be determined as follows:

Assignment, Points
Problem Set 1, 10 points
Problem Set 2, 10 points
Problem Set 3, 10 points
Midterm, 25 points
Final Policy Brief (written), 20 points
Final In-Class Presentation, 15 points
Active Course Participation (lectures, office hours) and Peer Review, 10 points

Grade points will be assigned to a letter grade according to the following scale:

Grade, Score
A, 80+
B, 70-79
C, 60-69
D, 50-59
F, less than 50

To provide flexibility, please be on the lookout for extra credit such as bonus questions appearing on problem sets or the midterm. These questions could be drawn from lectures/readings and provide additional opportunities to demonstrate that you’ve absorbed the material covered in class.

Attendance policy:

Absences

A student may miss class on occasion due to health, personal emergencies or Institute-approved absences. Georgia Tech has a web page that describes the expectations, rights, and responsibilities of students, instructors, the Office of Student Life, and health care providers. The information is intended to give students better direction as to how they

should proceed to notify instructors when they are ill and need to miss class and what kind of documentation they should provide and to whom. For information about expectations regarding student absences from class due to illness or personal emergencies, visit: http://www.catalog.gatech.edu/policies/student-absence-regulations.

For information regarding Institute Approved Absences (IIA) and to download the required form for students, visit the registrar at: https://registrar.gatech.edu/info/institute-approved-absence-form-for-students

Academic honesty/integrity statement:

Students are expected to maintain the highest standards of academic integrity. All work submitted must be original and properly cited. Plagiarism, cheating, or any form of academic dishonesty will result in immediate consequences as outlined in the university's academic integrity policy.

For information about Georgia Tech student-faculty expectations, visit: https://catalog.gatech.edu/rules/21. We abide by Georgia Tech’s academic honor code. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

Core IMPACTS statement(s) (if applicable):

PUBP 3042 is a Georgia Tech Core IMPACTS general education course in the social sciences. Core IMPACTS refers to the core curriculum, which provides students with essential knowledge in foundational academic areas. Course content, activities and exercises in this course should help students develop Career-Ready Competencies such as critical thinking, inquiry and analysis, ethical reasoning, intercultural competence, perspective-taking, problem solving, teamwork and persuasion. Students will effectively analyze the complexity of human behavior, and how historical, economics, political, social, or geographic relationships develop, persist, or change. This course should direct students toward the broad Orienting Question: “How do I understand human experiences and connections?”