

Syllabus

Course: STAT 3187W, Introduction to Sampling, Fall 2021
Class Time: TR, 2:20-3:35 pm.
Classroom: Rome Hall, Room 351

Instructor: Tapan Nayak
Office: Rome Hall, Room 762
Phone: (202) 994-6549
E-mail: tapan@gwu.edu
Office hours: Tue., 1:00 – 2:00 pm, Thurs., 3:45 – 4:45 pm. Additional times are available by appointment.

Course description

This course introduces some basic concepts and tools that are used in the design and analysis of sample surveys. Topics include simple random, stratified, systematic, cluster, and multistage sampling; sample size calculation; calculation of estimates, standard errors and confidence intervals; control of sampling and non-sampling errors. This Writing in the Disciplines (WID) course will engage with several forms of writing in the field of Statistics.

Course prerequisite: Stat 1051 or equivalent (one stat course).

Textbook: *Elementary Survey Sampling* (7th edition) by R.L. Scheaffer, W. Mendenhall III, R. L. Ott and K. G. Gerow.

Learning Focus: Disciplined logical thinking and understanding relevant concepts and arguments.

Learning Approach: Engaged, active learning. Think, write and talk in complete sentences. Describe the context clearly. Arguments should be coherent and make good sense. Take ownership of what you write or say. Avoid mechanical “plug-in numbers in formulas” mode. Explain relevance of all calculations and draw appropriate conclusions.

CLASS POLICIES: Students are expected to

1. Attend all classes and engage in class discussion.
2. Review and revise class notes after every class.
3. Keep cell phones away during classes, and use laptops only for classwork.

Learning outcomes:

As a result of completing this course, students will be able to:

1. Describe and explain key concepts and methods in survey sampling.
2. Design surveys, including sample size calculations.
3. Analyze survey data to calculate estimates, standard errors and confidence intervals.
4. Evaluate and compare survey designs.
5. Write statistical arguments, survey designs and data analytic results and conclusions both technically, and for general people.

Average minimum amount of work expected per week:

Students are expected to spend a minimum of 7.5 hours per week, including 2.5 hours of classroom instruction and a minimum of 5 hours of out-of-class work.

GRADING: HW 35%; Quizzes 15%; Midterm Exam 20%; Final Exam 30%.

- Notes:**
1. This is a Writing in the Disciplines (WID) course. The quality of writing will carry much weight in the grading of all works.
 2. Late HW will be accepted only with a valid excuse. Some HW will involve teamwork.
 3. All quizzes will be unannounced. Quizzes may cover material discussed in the same class. No make-up quiz will be given. The lowest quiz grade will be discarded.
 4. The midterm exam will be given on **Tue., Oct. 19, 2021 (tentative)**.
 5. The final exam will be given as per the University's final exam schedule.

University Policies:

Use of Electronic Course Materials and Class Recordings

Students are encouraged to use electronic course materials, including recorded class sessions, for private personal use in connection with their academic program of study. Electronic course materials and recorded class sessions should not be shared or used for non-course related purposes unless express permission has been granted by the instructor. Students who impermissibly share any electronic course materials are subject to discipline under the Student Code of Conduct. Please contact the instructor if you have questions regarding what constitutes permissible or impermissible use of electronic course materials and/or recorded class sessions. Please contact [Disability Support Services](#) if you have questions or need assistance in accessing electronic course materials.

Academic Integrity Code

Academic Integrity is an integral part of the educational process, and GW takes these matters very seriously. Violations of academic integrity occur when students fail to cite research sources properly, engage in unauthorized collaboration, falsify data, and in other ways outlined in the Code of Academic Integrity. Students accused of academic integrity violations should contact the Office of Academic Integrity to learn more about their rights and options in the process. Outcomes can range from failure of assignment to expulsion from the University, including a transcript notation. The Office of Academic Integrity maintains a permanent record of the violation.

More information is available from the Office of Academic Integrity at studentconduct.gwu.edu/academic-integrity. The University's "Guide of Academic Integrity in Online Learning Environments" is available at studentconduct.gwu.edu/guide-academic-integrity-online-learning-environments. Contact information: rights@gwu.edu or 202-994-6757.

University policy on observance of religious holidays

In accordance with University policy, students should notify faculty during the first week of the semester of their intention to be absent from class on their day(s) of religious observance. For details and policy, see "Religious Holidays" at provost.gwu.edu/policies-procedures-and-guidelines

Sport for students outside the classroom

Writing Center

GW's Writing Center cultivates confident writers in the University community by facilitating collaborative, critical, and inclusive conversations at all stages of the writing process. Working alongside peer mentors, writers develop strategies to write independently in academic and public settings. Appointments can be booked online. See gwu.mywconline.

Academic Commons

Academic Commons provides tutoring and other academic support resources to students in many courses. Students can schedule virtual one-on-one appointments or attend virtual drop-in sessions. Students may schedule an appointment, review the tutoring schedule, access other academic support resources, or obtain assistance at academiccommons.gwu.edu.

Disability Support Services (DSS) 202-994-8250

Any student who may need an accommodation based on the potential impact of a disability should contact Disability Support Services to establish eligibility and to coordinate reasonable accommodations. disabilitysupport.gwu.edu

Counseling and Psychological Services 202-994-5300

GW's Colonial Health Center offers counseling and psychological services, supporting mental health and personal development by collaborating directly with students to overcome challenges and difficulties that may interfere with academic, emotional, and personal success. healthcenter.gwu.edu/counseling-and-psychological-services

Safety and Security

- In an emergency: call GWPD 202-994-6111 or 911
- For situation-specific actions: review the Emergency Response Handbook at safety.gwu.edu/emergency-response-handbook
- In an active violence situation: Get Out, Hide Out, or Take Out. See go.gwu.edu/shooterpret
- Stay informed: safety.gwu.edu/stay-informed