

**The George Washington University**  
**Department of Statistics**  
**STAT 1051-Section 10: Introduction to Business and Economic Statistics**  
**Syllabus (Updated on Jan 12, 2026)**

**Course information**

Semester: Spring 2026

Class: **TR 2:20pm-3:35pm**

Location: **FNGR 220**

No Class/Recitation:

No recitations: Jan 14 (W)

**No class: Feb 17** (T, Instructor's observation of Lunar New Year)

No class/recitation: Mar 10-12 (TWR, Spring Break)

Makeup Class: Apr 28 (T, Make-Up Day; Time/Room TBA)

**Instructor**

Name: Dr. Xiaoke Zhang

Office: 765 Rome Hall

Work Phone: (202) 994-8294

Email: [xkzhang@gwu.edu](mailto:xkzhang@gwu.edu)

Office hours: TR 4-5pm in office, or by appointment.

**Teaching assistant (TA)**

Name: Clayton Peng

Office: 755 Rome Hall

Email: [chuanhuip@gwu.edu](mailto:chuanhuip@gwu.edu)

Recitations:

Section 35: MON 250, W 11:10am-12:00pm

Section 36: 1957 E 111, W 3:45pm-4:35pm

Office hours: M 4-5pm in office, or by appointment.

**Course description**

This is an introductory course on statistics, which covers the following fundamental elements of statistics: frequency distributions, descriptive measures, probability, probability distributions, sampling, estimation, tests of hypotheses, regression and correlation, and applications to business.

**Note:** STAT1051, 1053, 1111 and 1127 are related in their subject matter, and credit for only one of them may be applied toward a degree.

**Course prerequisites**

Arithmetic and algebra at the high school level may be needed.

## Learning outcomes

Students will learn analyze classical “small data” (of small size, low dimension, and simple structure) and interpret classical statistical results. As a result of completing this course, students will be able to

1. Distinguish different data types;
2. Perform exploratory analysis in terms of various summary statistics and visualization tools;
3. Calculate probabilities for important distributions;
4. Conduct univariate statistical analysis using confidence intervals and hypothesis testing procedures;
5. Utilize software to analyze real datasets;
6. Use AI to enhance statistical learning in, e.g., understanding concepts, explaining examples, interpreting results, etc.

## Required textbooks and recommended reference

1. Two REQUIRED textbooks (**hard copy suggested for in-person quizzes**):
  - **Main textbook (MBS):** *Statistics for Business and Economics*, 14<sup>th</sup> Edition, Pearson. Authors: McClave, Benson and Sincich. **ISBN:** 9780136855354
  - **Supplementary textbook (FPP):** *Statistics*, 4<sup>th</sup> Edition, W. W. Norton & Company. Authors: Freedman, Pisani and Purves. **ISBN:** 9780393929720
2. Recommended reference: Student solution manual for MBS.

*There is at least one copy of each textbook on reserve at Gelman Library. You can borrow the textbook for free for up to three hours at a time. For more information on how to confirm the book is currently available and how to check it out, visit <https://library.gwu.edu/top-textbooks>.*

NOTE: DO NOT BUY INTERNATIONAL VERSIONS of the textbooks; the exercises are different!

## Blackboard

Blackboard is the only online management system for this course and please get familiar with Blackboard and check it frequently. It will be used by the instructor and/or TA for posting announcements (**Announcements**), course materials (**Electronic Reserves**), assignments (**Assignments**), grades, etc.

## Average amount of direct instruction or guided interaction with the instructor

2.5 hours per week.

## Average minimum amount of independent (out-of-class) learning

5 hours per week.

## Week-by-week schedule of topics to be presented and scheduling of final examinations

This is a tentative plan. The actual schedule may be slightly different.

Week	Suspended/Make-Up Classes	Topics
1		Introduction; Describing Data
2		Describing Data
3		Describing Data
4		Probability
5		Probability
6	No Class: Lunar New Year (T)	Random Variables and Distributions
7		Random Variables and Distributions
8		Sampling Distributions
9	No Class; No Recitation: Spring Break (TWR)	
10		Sampling Distributions
11		One-Sample Inferences
12		One-Sample Inferences
13		One-Sample Inferences
14		One-Sample Inferences
15		One-Sample Inferences
16	Make-Up Class (T)	One-Sample Inferences; Review

NOTE: In accordance with university policy, the final exam will be given during the final exam period and not the last week of the semester. For details and complete policy, see: <https://provost.gwu.edu/administration-final-examinations-during-examination-period>

### Grading

Total=102%

1. Homework (20%): 5 or 6 homework will be assigned. **The lowest homework grade will be dropped** before calculating the overall grade. Detailed information will be given.
2. Quizzes (10% = 2% × 5): Six quizzes will be given on the following dates: **Jan 29 (R), Feb 12 (R), Feb 26 (R), Mar 19 (R), Apr 2 (R), and Apr 16 (R)**. **The lowest quiz grade will be dropped** before calculating the overall grade. Detailed information will be given before the first quiz.
3. Midterm exams (40% = 20% + 20%): Two midterms will be given. The dates are **Mar 5 (R)** and **Apr 9 (R)**. Detailed information will be given about one week before each midterm.
4. Final exam (30%): As scheduled by the Office of the Registrar, the final exam will be given **TBA**. Detailed information will be given by the last week of the semester.
5. Two pop quizzes (2%): Two pop quizzes will be given in class.

NOTE: All quizzes and exams will be in-person in class. DSS students may take quizzes in class, but for the two midterm exams and final exam, DSS students MUST request for the DSS test proctoring services and take them in designated rooms.

## Course policies

1. Attendance: Attendance is required for all students. If you miss a class or recitation, the instructor or TA will NOT provide a makeup class or recitation; please go to Blackboard to find relevant course materials and announcements. Those who are not enrolled in this course are NOT allowed to attend any class or recitation.
2. Recording: No audio or video recording is allowed in any lecture or recitation without the instructor's permission.
3. Email: To conform with the GW policies on privacy, please **always use GW email addresses** to communicate about GW matters.
4. Makeup quizzes/exams: No makeup quizzes or exams will be given except for emergencies with proper documentation. **Requests for makeup quizzes or exams must be made to the instructor by email for approval BEFORE the original quiz/exam time. Only email requests and approvals are considered valid; oral requests or approvals are not.** If approved, students are responsible for both reminding the instructor of giving makeup quizzes/exams and taking them within one week of the original quiz/exam dates AND before the solution/answer keys are posted on Blackboard. Any missed quiz or exam will be counted as zero point.
5. Disputes on grades: For the grade of a task (e.g., quiz, exam), **disputes must be sent to the instructor and TA by email within one week** since the grade is posted on Blackboard. Disputes will NOT be considered if sent after one week since the grade is posted on Blackboard.
6. Asking questions: **Office hours are absolutely the best** time to ask questions and receive prompt answers. It is not recommended to ask questions by email since it is very inefficient, and it is often unrealistic to receive immediate responses. If you have to ask questions by email, itemize all your questions in one email for clarity and for convenience to reply- writing emails is NOT text messaging. The instructor typically checks emails ONLY on workdays.

## Guidelines for Using Generative Artificial Intelligence

Generative Artificial Intelligence (GAI) tools such as ChatGPT and Gemini are becoming important resources in many fields and industries. Students are *always permitted* to use GAI tools to generate content for self-learning, e.g., to prepare for exams and quizzes. In this course, students are also *permitted* to use such tools to generate content *in homework assignments* (details to be announced), but NOT in quizzes and examinations. You remain responsible for all content you submit for evaluation.

## Advice

1. Syllabus: The syllabus serves as a reliable guideline for the course. Please keep the latest version of the syllabus and get familiar. You can find the answers to a

- lot of your questions regarding this course from the syllabus, e.g., office addresses, office hours, etc.
2. Attitude: Sufficient in-class and out-of-class efforts with proper learning strategies are needed to receive a satisfactory grade (no pain no gain).
  3. In-class learning:
    - a. **Due to time limit, lectures by the instructor focus on motivations, concepts, important formulas and skills, and representative examples (not many).**
    - b. Recitations primarily focus on exercises and software use.
  4. Recommended learning strategy:
    - a. Attend lectures and recitations.
    - b. After each lecture or recitation, **do the followings within one day** (suggested by the Ebbinghaus “forgetting curve”), either independently or in groups:
      - i. Review slides, your own notes and corresponding textbook chapters.
      - ii. Redo examples in slides.
    - c. Attend office hours with your remaining questions.
    - d. After each homework is assigned:
      - i. Start working on each homework as soon as it is assigned.
      - ii. Scan through homework problems. If you feel difficult in working on most of them, review the slides and textbooks again, and/or discuss with classmates; otherwise **do homework independently** with minimum reference to the notes or textbooks.
      - iii. After the solutions are posted, compare your answers with solutions and/or discuss with other classmates. If there are many errors, review the slides and textbooks again, and/or discuss with other classmates.
      - iv. Attend office hours with your remaining questions; do more textbook exercises if necessary.
  5. Calculators: **Get familiar with your calculator** (and your backup calculator). Use it when doing homework (for this course and others).

### **University policies, academic support, student support, and campus emergency information**

Information on University policies, academic support, support for students in and outside of the classroom, and GW campus emergency information can be found at the following link: [bulletin.gwu.edu/university-syllabus-policies/](http://bulletin.gwu.edu/university-syllabus-policies/).

### **Disclaimer**

- I, the instructor, retains the right to revise the syllabus. Whenever the syllabus is changed, announcements will be made in class and/or on Blackboard.
- My lectures and course materials, including slides, homework, tests, and similar materials, are protected by U.S. copyright law. I am the exclusive owner of the copyright in those materials I create. You may take notes and make copies of

course materials for your own use. You may also share those materials with another student who is registered and enrolled in this course. You may not reproduce, distribute or display (post/upload) lecture notes or recordings or course materials in any other way - whether or not a fee is charged - without my express written consent. You also may not allow others to do so.

- When taking this course, students agree with all the policies stated in this syllabus. If any student has any objections or concerns regarding the syllabus, the student must inform the instructor by email within the first week of the semester.