

## Spring 2022 Math 3020 Applied Probability and Statistics for Computer Science

### Instructor

Dr. Xiaojing Ye (E-mail: [xye@gsu.edu](mailto:xye@gsu.edu)).

### Teaching Assistant (TA)

Shirui Wang (E-mail: [swang58@student.gsu.edu](mailto:swang58@student.gsu.edu)).

### Course Website

<https://math.gsu.edu/xye/course/prob-csc.html>

### Course WebEx

Instructor: <https://gsmeetings.webex.com/meet/xye> (for all lectures and the instructor's office hours)

TA: <https://gsmeetings.webex.com/meet/swang58> (for TA's office hours)

### Office Hours and Location

Instructor: Tuesday 2:00–5:00 PM or by appointment with the instructor.

TA: TR 2:30–3:30 PM or by appointment with the TA.

### Class Time and Location

TR 11:00–12:15 PM on WebEx.

### Textbook

Probability and Statistics for Computer Scientists (3rd edition) by Michael Baron. Chapman & Hall CRC Press.

### Prerequisites

Math 2212 with a C or higher.

### Course Topics and Learning Outcomes

Theory and applications of probability models, random variables, discrete and continuous probability distributions, joint and conditional distributions, sampling distributions, central limit theorem, hypothesis testing, confidence intervals. Chapters 2, 3, 4, 8, and 9 of the textbook will be covered.

### Attendance and Administrative Drop Policy

Attendance to all lectures are required and checked during the semester. Students who do not attend lectures regularly may be warned or administratively dropped.

### Quizzes

There are a total of 9 quizzes (20 points each, lowest quiz score is dropped, max 160 points total and weigh 24% of your final grade) during the semester. All quizzes will be administered on iCollege at <https://icollege.gsu.edu> and will require Lockdown Browser with webcam. Quizzes will be announced during lectures.

### Exams

There are four midterm exams and one final exam.

- All exams will be administered via iCollege and require the use of Lockdown Browser with webcam.
- All exams are closed book/notes. Basic calculators and blank scratch papers are allowed.
- Each midterm exam has 100 points. The lowest score of your four midterm exams is dropped. Total maximum of midterm exams is 300 points and they weigh 51% of your final grade.
- The final exam has 100 points. Attendance to the final exam is mandatory. It weighs 25% of your final grade.
- Exam schedule (see exam dates in **Important Dates** section below):
  - Midterm Exam 1: class time (75 minutes).
  - Midterm Exam 2: class time (75 minutes).
  - Midterm Exam 3: class time (75 minutes).
  - Midterm Exam 4: class time (75 minutes).
  - Final Exam: 10:45–1:15 PM (150 minutes).

### Grading Policy

Quizzes (24%) + Midterm exams (51%) + Final exam (25%) = Total (100%). Your total percentage will be rounded to the next integer (for instance, 79.12 will be rounded to 80). Your letter grade will be determined by the following table.

Score	0–59	60–69	70–76	77–79	80–82	83–86	87–89	90–92	93–96	97–100
Grade	F	D	C	C+	B–	B	B+	A–	A	A+

## Study Guide

The lectures progress at a fast pace. Lecture slides are available for download on the course website. Paying close attention and taking additional notes during lectures are of great importance. After the class read the book, the slides/notes, and do as many of the homework problems as you can prior to the next class. Try to get the remaining problems explained in the next class or during the office hours. *You are responsible for all material covered in class if you missed any class.*

## Accommodation

Students who wish to request an accommodation may do so by registering with the Access and Accommodation Center (AAEC). Students may only be accommodated upon issuance by the Access and Accommodation Center of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which accommodations are sought.

## Academic Honesty

All materials submitted for grading must be completed independently without help from any other persons or resources (including but not limited to solution manual and online solution websites.) *Cheating and plagiarism are strictly forbidden.* A first occurrence will result in a grade of zero on the assignment for all concerned parties as well as an Academic Dishonesty form being filed with the Dean of Students. A second occurrence will result in a grade of F for the course for the concerned parties and a second Academic Dishonesty form being filed. This course is conducted in a manner consistent with the university policy on academic honesty at <http://codeofconduct.gsu.edu/>.

## Disruptive Student Conduct in the Classroom or Other Learning Environment

The university's disruptive student policy applies and students should familiarize themselves with the relevant parts of the student code of conduct at <http://codeofconduct.gsu.edu/>.

## Withdrawal

Withdrawal on or before Semester Midpoint Day (see **Important Dates** below) will result in a grade of "PW". Hardship withdrawal after the Midpoint Day will result in a grade of "WF".

## Alternative Lecture and Exam Arrangement Policy

If the University is closed due to inclement weather or health crisis, the lecture and exam will be arranged in an alternative format and announced through iCollege.

## Sharing of Instructor-generated Materials

The selling, sharing, publishing, presenting, or distributing of instructor-prepared course lecture notes, videos, audio recordings, or any other instructor-produced materials from any course for any commercial purpose is strictly prohibited unless explicit written permission is granted in advance by the course instructor. This includes posting any materials on websites such as Chegg, Course Hero, OneClass, Stuvia, StuDocu and other similar sites. Unauthorized sale or commercial distribution of such material is a violation of the instructor's intellectual property and the privacy rights of students attending the class, and is prohibited.

## Remarks

- This course syllabus provides a general plan for the course; deviations may be necessary.
- Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing the course, please take time to fill out the online course evaluation.

## Important Dates

Class begins	January 10
Registration close	January 15
Midterm 1	February 8
Midterm 2	March 1
Spring Break (No class)	March 14–18
Midterm 3	March 22
Midterm 4	April 19
Final exam	April 28
Grade available online at 5PM	May 6

## COVID-19 Supplements

### **Supplemental Information for Attendance Policies**

Students who want to do well in this course will attend class following the class attendance policy. You will need an excused absence due to illness. GSU has a new process for students seeking excused absences through the Dean of Students Office. Please submit documentation to

<https://deanofstudents.gsu.edu/student-assistance/professor-absence-notification/>

I will then be notified by the Dean of Students of any excused absences.

Should a student test COVID positive, any accommodations to the class attendance policy will be informed by evolving guidance from the CDC on quarantine. In most cases there will be no major change to mode of course delivery, so students will be responsible for collecting notes for missed classes and making up any work they miss during quarantine. Anyone who has a positive COVID test is encouraged to alert the university so that appropriate contact tracing can be conducted.

### **Wearing Masks in Class**

You are encouraged to wear a face covering in all class meetings. I know that face masks may make some aspects of class more difficult. It will be harder for us all to project our voices and read each other's facial expressions. However, I am willing to sacrifice these elements since wearing a mask is one thing I can control to support the health and safety of our community. Be aware that wearing face mask is not required by GSU, so there is no penalty if you choose to not wear a mask. Our university community has a strong tradition of upholding the value of mutual respect, we therefore ask students to not engage in behavior that would be disruptive if your fellow students make a different choice about wearing masks. If you have concerns, please discuss them with me and I will work to the best of my ability to provide a comfortable environment conducive to student learning.