

Probability and Statistics Syllabus, Spring 2023

The department of Mathematics and Computer Science welcomes all students. We are committed to creating as inclusive, diverse, and comfortable environment as possible for all students.

Course description

An introduction to the mathematical field of Probability and Statistics for STEM majors, as well as students seeking a more advanced insight to related material.

Students interested in a general Statistics course should consider 21:640:211 (Statistics I) instead.

Instructor: Dr. Anastasiia Tsvietkova, email: a.tsviet@rutgers.edu, office: Smith Hall 317; website: <https://sites.rutgers.edu/anastasiia-tsvietkova/contact/>

Course website: course materials and grades are at Canvas website, canvas.rutgers.edu. Please check both Canvas and your Rutgers email regularly. At Canvas website, check Files section of our course for posted materials, homework, etc.

Class meets

Wednesday 11:30 AM - 12:50 PM

Friday 11:30 AM - 12:50 PM

Locations

The first class (December 18) is remote. More details to follow by email.

All other classes are in person on campus in Newark ENG-201 (Engelhard Hall)

Spring academic calendar: <https://myrun.newark.rutgers.edu/s23>

Prerequisites:

Successful completion with a grade of “C” or better in 21:640:135 (Calculus I) or 21:640:119 (Basic Calculus) or 21:640:155 (Honors Calculus)..

Office hours held in person, 1-1:30 pm on Friday or by appointment except for the first two weeks of the semester. If you would like to meet virtually outside these hours, please email me to make an appointment.

First two weeks of the semester (weeks of December 18, 25) the office hours are online, by appointment.

Textbook and other course materials: “Probability and Statistics for Engineers and Scientists” (4th edition), by Hayter, published by Cengage.

Files section of our course on Canvas website.

Students are expected to read sections of textbook assigned as homework before the next class.

Homework: Textbook reading and homework will be assigned during most classes. You do not have to turn it in. I will also add the homework assignment to Files section in Canvas. Keep up with the assignment and think about the questions you might have, to ask in class. We will start classes with a discussion based on your questions.

Please write full solutions for every homework problem. Later homework problems are likely to appear on quizzes and exams. Discussing homework problems with fellow students is allowed, but copying or allowing to copy the exact solution or answer is not. Thus, you must write everything down individually after any discussions took place.

Quizzes/worksheets: Short in class quizzes will cover some items from your reading and homework. They are individual, timed, closed-book assignments. Longer assignments (worksheets) may also be given. Not only correct answers, but the well-written solutions are important for full credit. If you are late for the class or leave early without securing the permission ahead, the quiz/worksheet grade may be reduced.

Please expect a quiz every week.

Attendance and work at home: As with any mathematics course, live lectures and discussions offer unique opportunities for firsthand learning. Nonetheless much learning takes place outside the classroom by reading the book and thinking about homework problems. Please plan at least 4 hours of home practice per every hour spent in class. Doing homework regularly and in a timely fashion is the key to keeping up with the class, doing well on quizzes and exams, and getting a good grade for the course.

Grades: Your grade for the course will be based on in-class quizzes, take home assignments (worksheets), in-class midterm exams, and final exam. Keep your graded work and check records in Canvas gradebook until final grades are posted.

The approximate grade breakdown will be as follows:

35%: In-class quizzes and worksheets

40%: Two in-class midterm exams, 20% each.

25%: In-class final exam.

Exam dates: Final exam is comprehensive, and is held at 8:30–11:30 am, May 5, Friday, in our regular classroom. Midterm exams will fall approximately on class 10 and class 20 this semester.

Makeup policy

If you miss a quiz, you receive 0 for it. Thus attendance is important. If you are late for the class or leave early without securing the permission ahead, the quiz/worksheet grade may be reduced.

In general, there are no make-ups unless there are very special circumstances and the explaining documentation is provided. In such cases, please contact me, the Office of Academic Services (OAS), and the Dean of Students. Examples of such circumstances: illness with a doctor's note, a covid test confirmation (positive or negative), or other unexpected events that can be verified by the Dean of Students or the Office of Academic Services (OAS), with a verification letter from them. In those very special cases, the final quiz and the penultimate quiz can be counted twice, instead of the one or two missed quizzes. Additionally, two lowest quiz/worksheet scores will be dropped.

Midterm Exam makeups are allowed only in extreme emergencies, such as a documented medical emergency, with an advance notice sent to me via e-mail, and/or OAS or Dean of Students approval. A make up can be harder than the actual exam.

You must be present on the final exam to receive any grade beyond F or (under very special circumstances, documented, as above) incomplete grades.

Calculators and other quiz/exam policies: No books, calculators or notes are allowed on exams and quizzes. Please no talking or leaving the room during quizzes without permission. Bring your ID to quizzes and be ready to show it. Students are responsible for ensuring they do not have conflicting class and schedule arrangements.

Grading cutoffs customary for our campus and this course: A: 90%, B+: 85%, B: 80%, C+: 75%, C: 70%, D: 60%

Masks

In order to protect the health and well-being of all members of the Rutgers-Newark community, masks should be worn during class meetings and office hours.

Students with disabilities: Any student with a documented disability who needs to arrange reasonable accommodations must contact the Office of Disability Services (ODS). If your request for reasonable accommodations is approved, you will receive a Letter of Accommodations (LOA), which you should present privately to the instructor as early in the semester as possible. Accommodations are not retroactive and are effective only upon submission of the LOA to the instructor. Instructor is authorized to provide only the accommodations requested by the ODS.

Classroom etiquette: Be considerate of the instructor and those around you. Come to class on time and stay the entire period. Turn off cell phones. Refrain from reading newspapers or working on other coursework during class. No taping, filming, or photography in class without a prior permission. No listening to music during class. Etiquette violations might result in reducing quiz and worksheet grades.

Academic Standards of Conduct: All students are expected to follow Rutgers Code of Academic Conduct. Cheating and plagiarism will not be tolerated. Violations of academic integrity can result in serious consequences including probation, failing grades, suspension, and expulsion from the university. More at <http://academicintegrity.rutgers.edu/>

Religious Holiday Policy and Accommodations: Students are advised to provide timely notification to instructors about necessary absences for religious observances and are responsible for making up the work or exams according to an agreed-upon schedule. The Division of Student Affairs is available to verify absences for religious observance, as needed: <http://sasn.rutgers.edu/oas>, (973) 353-5063 or DeanofStudents@newark.rutgers.edu

Counseling Services: Counseling Center Room 101, Blumenthal Hall, (973) 353-5805 or counseling.newark.rutgers.edu

Tentative topics:

We will discuss material from the following chapters of the textbook:

Chapter 1 Probability theory

Chapter 2 Random variables

Chapter 3 Discrete probability distributions

Chapter 5 The normal distribution

Chapter 7 Statistical estimation and sampling distributions

Chapter 8: Inferences on a Population Mean

Chapter 9 Comparing two population means

Chapter 10 Discrete data analysis

Chapter 12 Simple linear regression and correlation

Students with Temporary Conditions/Injuries: Students experiencing a temporary condition or injury that is adversely affecting their ability to fully participate in their courses should submit a request for assistance at: temporaryconditions.rutgers.edu

Gender or Sex-Based Discrimination or Harassment: Students experiencing any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or stalking, should know that help and support are available.

To report an incident, contact the Office of Title IX and ADA Compliance: (973) 353-1906 or TitleIX@newark.rutgers.edu

To submit an incident report: tinyurl.com/RUNReportingForm

To speak with a staff member who is confidential and does NOT have a reporting responsibility, contact the Office for Violence Prevention and Victim Assistance: (973) 353-1918 or run.vpva@rutgers.edu

Additional Support: Especially in these challenging times, all students should be aware of the support and resources listed at the following site. Please take a few minutes to review:
myrun.newark.rutgers.edu/covid-financial-resources