

**MATH 481 - Mathematical Theory of Statistics**

**TF 10:20 - 11:40 am, Room: TIL 258**

[Course website](#)

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**Instructor:** Triet Pham, Office: Hill 508, Email: [tmp140@math.rutgers.edu](mailto:tmp140@math.rutgers.edu)

**Office Hours:** TTH 3:30 - 5:00 pm and by appointment.

**Textbook:** John E. Freund's Mathematical Statistics with Applications, 8th edition.

**Course topics:** Fundamental principles of mathematical statistics, sampling distributions, estimation, testing hypotheses, correlation analysis, regression.

**Course Outline:**

Please note that this is a tentative outline. As the course progresses, we may adjust the pace and / or the material if necessary.

WEEK 1: Probability review. Text : Chapters 1-7

WEEK 2: Sampling Distributions. Text: 8.1, 8.2, 8.4

WEEK 3: Sampling Distributions (cont). Text: 8.4, 8.5, 8.7

WEEK 4: Point Estimation. Text: 10.1, 10.2, 10.3

WEEK 5-6 : Point Estimation (cont). Text : 10.7, 10.8

WEEK 7: Interval Estimation. Text : 11.1, 11.2, 11.3, 11.4

WEEK 8: Interval Estimation (cont). Text : 11.5, 11.6, 8.6, 11.7

WEEK 10 and 11 : Hypothesis testing. Text : 12.1, 12.2, 12.4

WEEK 12: Hypothesis testing (cont). Text : 12.5, 12.6, 13.1, 13.2, 13.3

WEEK 13 : Tests of hypothesis involving means, variances and proportions. Text : 13.4, 13.5, 13.6

WEEK 14: Regression and Correlation. Test: 14.1, 14.2, 14.3, 14.4

**Grade Breakdown:**

Quiz: 10 %

Homework: 10 %

Midterm 1: 25 %

Midterm 2: 25 %

Final: 30%

**Cell phone policy:** No cell phone use shall be permitted in class. Violation of this policy may result in the user being asked to leave the class room.

**Missing exams policy:** Absence from an exam must be discussed prior to the actual exam date with the instructor and with valid reason. If an emergency happens on the exam date, the student must show proof of the emergency to the instructor. In this case, the final exam result shall be used in place of the missed exam. Unexcused absence from an exam will result in a zero in that exam.

**Academic Honesty:** As a Rutgers University student, you have agreed to abide by the University's academic honesty policy, as stated in <http://academicintegrity.rutgers.edu>. Lack of knowledge of the academic honesty policy is not a reasonable explanation for a violation. Questions related to course assignments and the academic honesty policy should be directed to the instructor.

**Extra help:** All students are strongly encouraged to come to my office hours to discuss homework problems or any aspect of the course. I am also available by appointments if the office hours do not fit into your schedule. Sending me emails regarding your questions is also an excellent way to get a prompt response.

**University Attendance Policy:** Students are expected to attend classes regularly, according to what is stated in <http://sasundergrad.rutgers.edu/academics/courses/registration-and-course-policies/attendance-and-cancellation-of-class>

**Important Dates:**

First midterm ..... Feb 21, 2020  
Second midterm ..... Apr 3, 2020  
Final Exam ..... 8 - 11 am, May 13, 2020  
You can also check the final exam schedule [here](#)

**Student-Wellness Services:**

Just In Case Web App  
<http://codu.co/cee05e>

Access helpful mental health information and resources for yourself or a friend in a mental health crisis on your smartphone or tablet and easily contact CAPS or RUPD.

**Counseling, ADAP & Psychiatric Services (CAPS)**

(848) 932-7884 / 17 Senior Street, New Brunswick, NJ 08901 / [www.rhscaps.rutgers.edu/](http://www.rhscaps.rutgers.edu/)

CAPS is a University mental health support service that includes counseling, alcohol and other drug assistance, and psychiatric services staffed by a team of professional within Rutgers Health services to support students' efforts to succeed at Rutgers University. CAPS offers a variety of services that include: individual therapy, group therapy and workshops, crisis intervention, referral to specialists in the community and consultation and collaboration with campus partners.

**Violence Prevention & Victim Assistance (VPVA)**

(848) 932-1181 / 3 Bartlett Street, New Brunswick, NJ 08901 / [www.vpva.rutgers.edu/](http://www.vpva.rutgers.edu/)

The Office for Violence Prevention and Victim Assistance provides confidential crisis intervention, counseling and advocacy for victims of sexual and relationship violence and stalking to students, staff and faculty. To reach staff during office hours when the university is open or to reach an advocate after hours, call 848-932-1181.

**Disability Services**

(848) 445-6800 / Lucy Stone Hall, Suite A145, Livingston Campus, 54 Joyce Kilmer Avenue, Piscataway, NJ 08854 / <https://ods.rutgers.edu/>

Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student with a disability must contact the appropriate disability services office at the campus where you are officially enrolled, participate in an intake interview, and provide documentation:

<https://ods.rutgers.edu/students/documentation-guidelines>.

If the documentation supports your request for reasonable accommodations, your campus's disability services office will provide you with a Letter of Accommodations. Please share this letter with your instructors and discuss the accommodations with them as early in your courses as possible. To begin this process, please complete the Registration form on the ODS web site at: <https://ods.rutgers.edu/students/registration-form>.

**Scarlet Listeners**

(732) 247-5555 / <http://www.scarletlisteners.com/>

Free and confidential peer counseling and referral hotline, providing a comforting and supportive safe space.