

**MATH 306-STATISTICAL MODELLING-FALL-2021-2022**

**SABANCI UNIVERSITY**

Instructor: Mustafa Oguz Afacan

E-mail: mafacan@sabanciuniv.edu

Office: FASS 1029

Course Assistants: TBA

Lectures: Wed: 8:40-10:30; and Friday: 8:40-9:30 @ FENS G077

Recitations: As indicated in the Student Information System.

**COURSE OVERVIEW**

This course aims to introduce students to the statistical modeling of random phenomena. The basic principles and techniques of statistical inference like estimation and hypotheses testing through the observed sample values will be studied in detail. This will be followed by a discussion of selected topics from the linear models, regression and related inferential problems.

**TEACHING METHOD**

Due to pandemic, lectures will be hybrid in the sense that lectures can be both physically and virtually (synchronized fashion) followed. Recitations will be all virtual though. All the lectures and recitation recordings will be posted.

**TEXTBOOK**

It is not necessary to have a book. However, we follow the book below, and if you are planning to buy one, I would recommend it.

*John E. Freund’s Mathematical Statistics with Applications, Pearson-Princeton Hall, 2004*

<https://www.homerbooks.com/urun/john-e-freunds-mathematical-statistics-with-applications> (Homer’s Online Sale Link)

**GRADING**

Midterm: %45

Final: %55

All the exams will be face-to-face in the campus.

**MAKE UP EXAMS**

If a student misses an exam, then s/he has to have a medical report by Sabanci Medline covering the exam date. Otherwise, it will be counted as “zero.” With that valid excuse, the missed midterm weight will be transferred to the final weight. That is, there will be no make-up exam for the midterm. If a student misses the final exam with a medical report by Sabanci Medline covering the exam date, then a make-up will be given for the final exam. Without that report, it will be counted “zero” whatsoever. No retake exam (Bütünleme) will be offered. Any student who misses both exams will receive “NA” whatsoever.

As the make-up will be harder than the regular final exam, students are strongly advised to treat themselves well in the final exam dates.

**SCHOLASTIC DISHONESTY POLICY**

The definition for scholastic dishonesty is given in the rules and regulations of the Sabanci University. In the case of scholastic dishonesty, no credits will be given for that particular work. Cheating during written work will result in an F for the course. All incidents of scholastic dishonesty will be reported to university for disciplinary action.

**COURSE OVERWIEW**

**Topic 1:** Sampling Distributions (Chapter 8)

**Topic 2**: Point Estimation (Chapter 10)

**Topic 3**: Interval Estimation (Chapter 11)

**Topic 4**: Hypothesis Testing (Chapter 12)

**Topic 5**: Tests of Hypothesis Involving Means, Variances, and Proportions (Chapter 13)

**Topic 6**: Regression and Correlation (Chapter 14)

.