

**Office Hours:** See webpage.

**Prerequisites:** ST121 (Probability I).

**Objectives:** This is a standard course in Statistics for students in applied sciences. The objective of this course is to prepare the student for analyzing data. All fundamentals of statistical analysis will be taught in this course. This includes, theory of point estimation, testing hypothesis, representing data and data visualization, and comparing two samples. For fulfilling that objective we cover almost all proofs, give the intuition behind the mathematics, and give many examples from real life applications and by using real datasets. After finishing that course the student should be very comfortable with dealing with data analysis and ready to more advanced courses, e.g., Pattern Recognition and Machine Learning.

**Text:** Rice, J.A., “*Mathematical statistics and data analysis*”. 3rd ed, 2007.

**Course Syllabus:** This course continues on the previous course, ST121 (Probability I). We will start from what we have ended in that course. In ST121 we almost covered the first 6 chapters. Therefore, in this course, we will start from Chapter 8 and cover almost to Chapter 11. This includes, theory of point estimation, testing hypothesis, representing data and data visualization, and comparing two samples.

**Assignments:** Assignments will include both, problems and computer exercises. Either Matlab or R is preferable for solving the computer exercises. **No late assignments please.**

**Grading Policy:** 60% of the grade will be on the final exam, 20% on homeworks, and 20% on midterm exam. Solving assignments, in both formats the paper-and-pencil and computer exercises, is crucial for acquiring the skills to solve the exam.

### General Info:

- All handouts, grades, and assignments will be posted on the course webpage.
- For applications on real data sets see the CD accompanying the book or the webpage of the book..