MATH 181B:
INTRODUCTION TO MATHEMATICAL STATISTICS II

EDDIE AAMARI, DEPARTMENT OF MATHEMATICS, UCSD, SPRING 2018

Instructor.

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Lectures. Tuesday and Thursday, 3:30pm-4:50pm, AP&M B402A

Textbook.

An Introduction to Mathematical Statistics and its Application by Larsen and Marx

Content. This course is an introduction to the asymptotic theory of two-sample tests, goodness of fit tests and a regression theory.

Course Objectives	Outcome Expected	Skills Developed
Make connections between different statistical tests.	To identify which test applies and check mathematical conditions and validity of the test.	A number of statistical tests related to categorical and numerical data, numerical simulations, optimality.
Formulate real life problems into hypothesis testing problems and solve them using an appropriate test statistics.	Select and use rules of probability to define the null hypothesis.	Probability models, parameters of interest.
Critical questioning and analysis of a regression model.	Find estimators of the regression equation and interpret the assumptions and meaning of the R table results.	Mathematics behind MLE estimator in regression.
Study uncertainty with respect to the regression estimation.	Given two events, determine if they are independent or there is a relationship between them.	Hypothesis tests and confidence intervals in regression setting.

Course Webpage. All the class informations (homework, due dates, solutions) will be available on the instructor's webpage.

Office Hours.

Name	*Email*	*Office Hours*	Office
Aamari, Eddie	eaamari@ucsd.edu	Tuesday 11am-12pm	AP&M 5880A
		Thursday 11am-12pm	AP&M 5880A
Wang, Jiangchuanhai	jiw078@ucsd.edu	Wednesday 3pm-5pm	AP&M 5412

Homework. Homework is a very important part of the course and you should work carefully on every assignment and try your best to complete every problem. The homework assignments will be announced on the course webpage and should be completed by the the indicated due date.

- Homework is due weekly in on Thursday's lecture.
- Late assignments will not be accepted.
- Your worst homework grade will be dropped.
- Randomly selected problems on the assignment will be graded.

To assist your grader, you should keep all problems in the same order as the assignment list. If a problem is omitted, it should still appear in the correct order. All work must be on full-sized notebook paper and all pages must be stapled together.

- The upper right corner of each assignment must include:
  - Your full name (Last name, First name)
  - Your PID
  - Your discussion section
  - Homework assignment number

Homework will be handed back in your discussion section the week after.

- No homework re-grading will be allowed after the section ends. This means that if you come back after you went out the room, your homework assignment cannot be regraded.
  Complaints/reclamation during the section will be considered with concern.

Grading. Your average in this class will be determined as follows.

20% Homework
25% Midterm 1
25% Midterm 2
30% Final Exam

Your worst homework grade will be dropped for computing your final *Homework* score.

The grading scheme will be curved and scaled to the best student in class.

Academic Integrity. Group work and discussions are allowed and encouraged in this course, but copying or letting others copy your work plagiarism. Cases of academic dishonesty will be reported to the Academic Integrity Office. Penalties for violating the policy vary depending on the circumstances but can include failure in the course or suspension from the university. UCSD's integrity policy can be found here.