

Statistics 134, Spring 2005

Instructor: Professor Bin Yu

Office Hours: W: 11-12 am; Th: 1:30-2:30 pm in 429 Evans Hall.

Phone: 642-2021 (Office), 642-2781 (dept, messages), **email:** binyu@stat

Comments, Suggestions, Gripes: in person, email, anonymous notes in my box or under the door. All feedback is welcome.

TA and office hours: M: 1-3, Th: 8:30-9:30, 3:30-4:30, 307 Evans Hall The TA will post homework solutions inside the glass windows located along the middle aisle on the third floor in Evans Hall.

Phone: 642-2781 (Stat. Dept. main no.)

Lectures: MWF 10-11 AM, 60 Evans Hall.

Discussion groups: T/Th: 2:30-3:30, Cesar Chavez (student learning center), 113.

Textbook: *Probability*, Jim Pitman.

Grading:

$$\max\{20\%\text{homework} + 35\%\text{midterm} + 45\%\text{final}, 20\%\text{homework} + 25\%\text{midterm} + 55\%\text{final}\}$$

Homework: is assigned in class on Friday and usually due on the following Friday (unless announced otherwise). **No late homework** will be accepted, *for any reason*.

Doing the problems will help you on exams even though they are counted only 20% towards the final grade, and is the only way for you to know whether or not you've mastered the material.

For your information and well-being:

- Read the **textbook before lectures**. You will get more from both the text and the lectures. Try skimming the chapter before lecture, then re-reading it before doing the homework. **You need to do more problems than the HW assignments to get enough practice. Please try as many other problems as you can from the book.**
- **Show all your work** on homework and exams for maximum credit, and for partial credit.
- Always **state any additional assumptions** you must make to solve a problem, both on homework and exams.
- I am not interested in your ability to memorize formulae. I am interested in your ability to think and to reason things out. You may bring one page of notes (front and back) to the midterm and final.

Material Covered: The non-optional sections of the textbook.

Tentative schedule:

Week 1. 8/30, 9/1, 3

Discrete probability – concepts and rules. (Ch. 1)

Week 2. 9/(6), 8, 10

Binomial distribution and its normal approximation.
(2.1-2.2)

Week 3. 9/13, 15, 17

Poisson approximation and random sampling; (2.4-2.5)

Week 4. 9/20, 22, 24

Monday and Wed. Introduction to Random Variables
3.1. Friday: Expectation (3.2).

Week 5. 9/26, 28, 10/1

Monday Expectation 3.2 (method of indicators) wed:
prediction (3.2) Friday: Standard deviation and normal
approximation (3.3)

Week 6. 10/4, 6, 8

Monday: normal approximation (3.3) add office hour
on Tuesday. sample exam and review sheet to them
ready for Wednesday to give them. Wednesday: Discrete distributions
(3.4) Friday: Poisson distribution (3.5) (Peng teaches)

Week 7. 10/11, 13, 15

Poisson dist (3.5) on Monday; Review on Wednesday; more
office hours on Thursday!!! Midterm in Class Friday
(Oct 15) covers Chapters 1-3. One-page of double-sided
notes allowed.

Week 8. 10/18, 20, 22

Probability densities (4.1)

Week 9. 10/25, 27, 29

Exponential and Gamma distributions (4.2).

Week 10. 11/1, 3, 5

Change of variable and cumulative distribution functions
(4.4, 4.5)

Week 11. 11/8, 10, 12

Uniform distributions and densities (5.1-5.2, 5.3)

Week 12. 11/15, 17, 19

Normal random variables (5.3, 5.4, 6.1)

Week 13. 11/22, 24, (26)

Conditioning (6.2-6.3)

Week 14. 11/29, 12/1, 3

Covariance, correlation, and bivariate normal (6.4,6.5)

Week 15. 12/6, 8, 10

Monday: 6.5. Wednesday and Friday: Reviews for the final
exam.

Week 17. 12/14 (Tuesday) Final Exam: 8-11 am

It covers all the material taught during the semester.
Two pages of double-sided notes are allowed.